QAD Enterprise Applications
Enterprise Edition

Training Guide

Work Order Costing

70-3077A
QAD 2010 Enterprise Edition
Lab: Enterprise Edition 2010 - Addons r03 - Training
Workspace: 10USA > 10USACO
Nov 2010

WorkOrderCosting_TG_v2010EE.pdf/njm/lkk

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About this Course

Course Description

This QAD Work Order Costing 2010 Enterprise Edition course offers detailed instruction on how work orders are costed in work in process and as they are closed. Details of material, labor, burden, overhead, and subcontract costs, how they are computed, when they are calculated and how they are reported.

This guide may be taught individually or as a part of the Product Costing & Cost Management course set.

Course Objectives

Provides the details necessary to track and explain costs and variances in a work order environment. Includes details on subcontract manufacturing in a work order environment.

Course Benefits

Provides the opportunity for personnel responsible for developing costs and explaining variances in a work order environment to understand how the system works.

Audience

Finance and operations personal who develop product costs and explain variances in a work order environment.

Prerequisites

Introduction to Costing, Product Costing, and Familiarity with the .NetUI

Course Credit & Scheduling

This course is valid for 6 credit hours. This course is typically taught in 1 day.

Virtual Environment Information

The hands-on exercises in this book should be used with the “Enterprise Edition 2010 - Addons r03 - Training” environment, in the “10USA > 10USACO” workspace.

QAD Web Resources

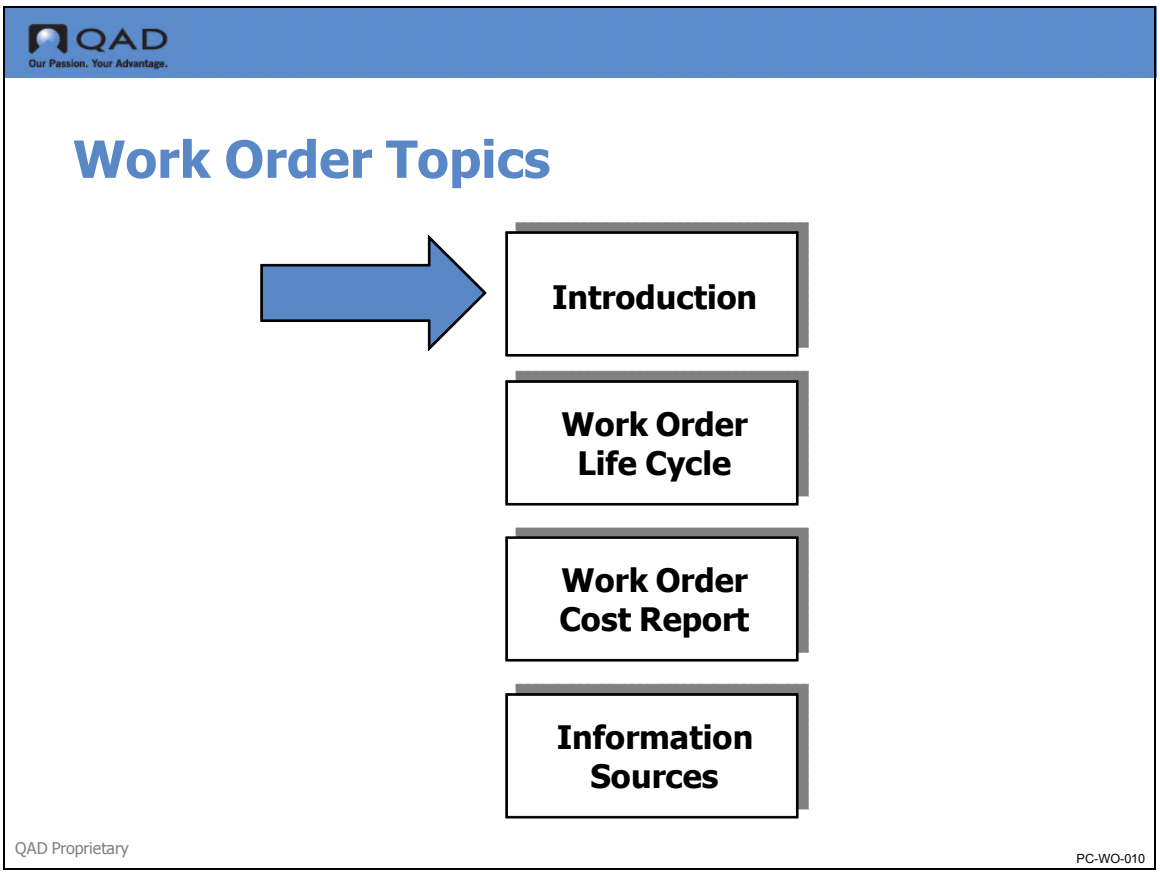
From QAD’s main site, you can access QAD’s Learning or Support sites.

http://www.qad.com/

Chapter 1

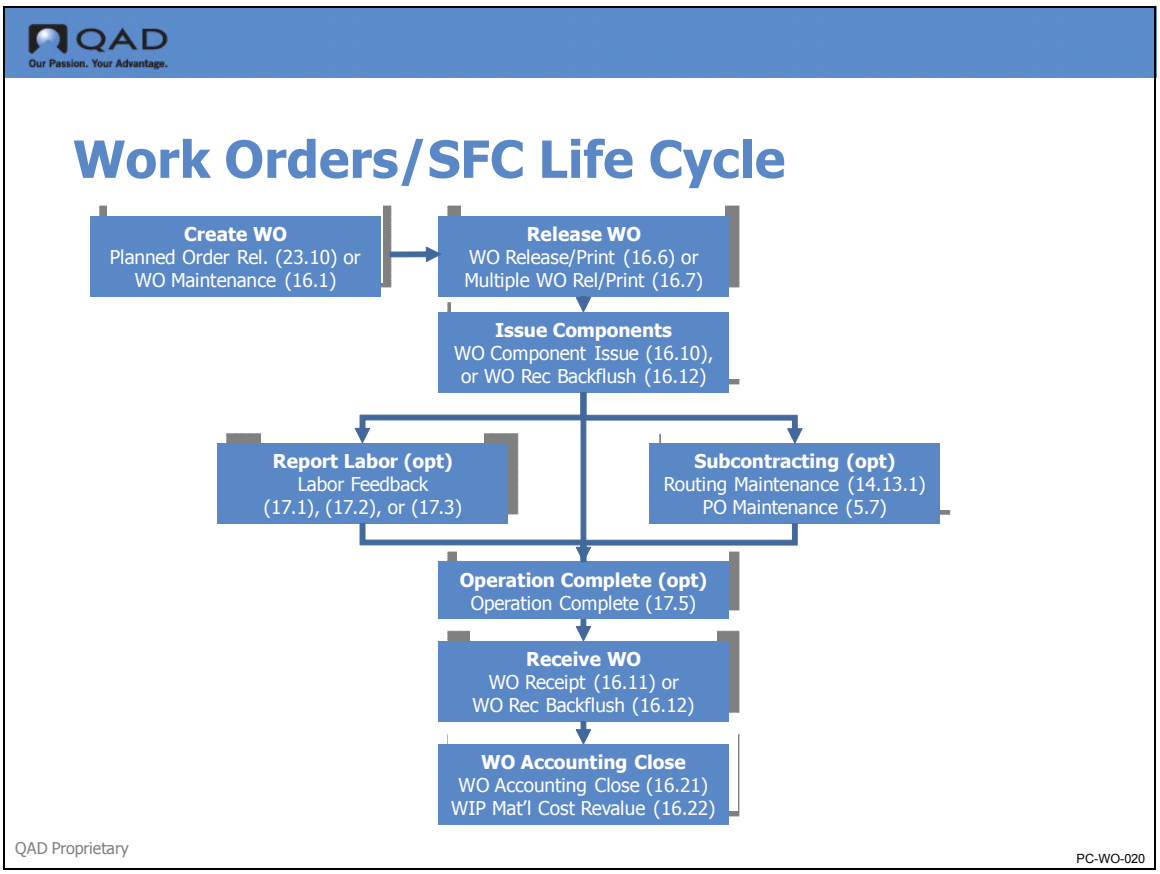
Work Orders

Work Order Topics



This chapter on work order transactions and costing begins with an introductory overview, which is followed by a discussion of the Work Order Maintenance (16.1) screen and stages of the work order life cycle—component issues, labor reporting, work order receipt, and work order accounting close. The chapter concludes with a detailed review of the Work Order Cost Report (16.3.4) and a list of information sources.

Introduction



First, we will look at work-order based manufacturing. As you can see, there are many functions that affect cost.

Work order activities mainly concentrate on the material aspect of manufacturing. Components are issued, finished products are received, and rejects are recorded. When the entire process is complete, an "accounting close" function issues floor stock, clears out any remaining WIP balance, and calculates variances.

Shop Floor Control (16.20.24) functions record the movement of a work order as it goes from one operation to the next, and report the labor time spent on each operation. Both labor and burden costs are recorded and rate variances are calculated.

Use of Shop Floor Control is optional. If not used, then labor and burden will be applied/absorbed at standard rates when the work order is accounting closed. Work Order Accounting Close (16.21).

GL Transactions

All general ledger transactions are stored in the unposted transaction file until they are posted. Unposted transactions can be reviewed using Unposted Transaction Inquiry (25.13.13). Transactions created in modules other than GL can be reviewed and deleted using GL Transaction Delete/Archive. The GL reference begins with IC.

A complete audit trail of all inventory transactions is maintained in transaction history (tr_hist). These can be reviewed using Transactions Detail Inquiry (3.21.1). Each transaction is identified by a transaction number and a transaction type. Several transactions are created; ISS-WO for the issues, RCT-WO for the receipts, and RJCT-WO for the scrap.

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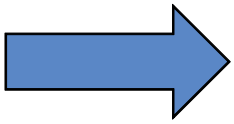
Work Order Topics

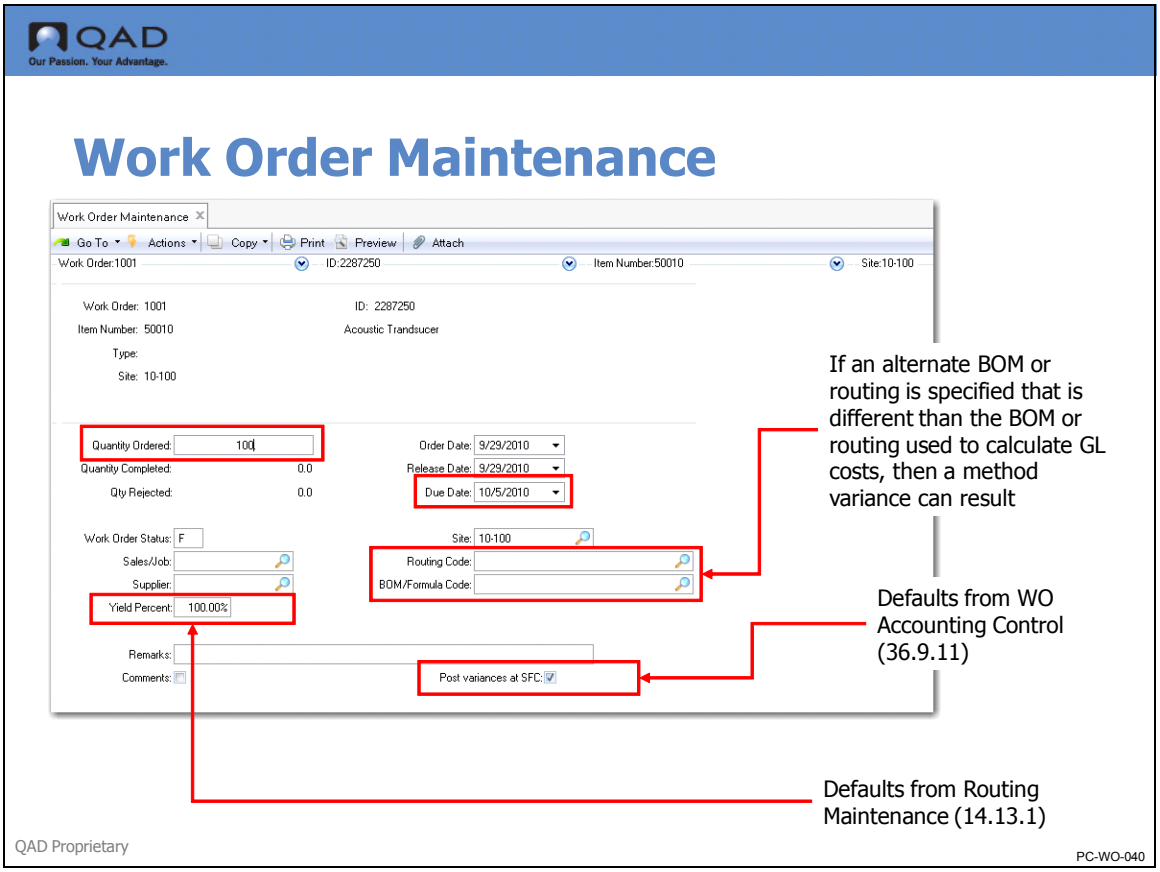


- Introduction
- Work Order Life Cycle
- Work Order Cost Report
- Information Sources

- **WO Maintenance Screen**
- Component Issues
- WIP Material Cost Revaluation
- Floor Stock
- Intersite Transfers/Multi- site Component Issues
- Labor Reporting
- Work Order Receipts
- Non-Std Work Orders
- WO Accounting Close

PC-WO-030

Work Order Maintenance Screen



Work orders specify:

- Item, quantity, and due date
- GL accounts for WIP, material, subcontract, floor stock and method variance
- BOM and routing code
- Status

These can be changed, including changing the BOM and routing code to any valid alternate. These are copied to the work order when it is exploded or released.

Note Accounting controls may make it difficult or impossible to change account codes.

Status. The work order status may be [P]lanned, [F]irm Planned, [B]atch, [E]xploded, [A]llocated, [C]losed, or [R]eleased. Only released work orders can be processed for material issues, receipts, and labor in the work order and shop floor modules.

Yield. Yield is the item default yield and may be changed manually. If changed, there is no automatic change to rolled up component requirements or cost. For manually entered work orders, MRP will use the revised yield percentage to compute a “scrap requirement” and critique the material plan accordingly. Planned work orders generated by MRP have their order quantities inflated to allow for the yield percentage.

Note Changing this yield will result in Method Variance.

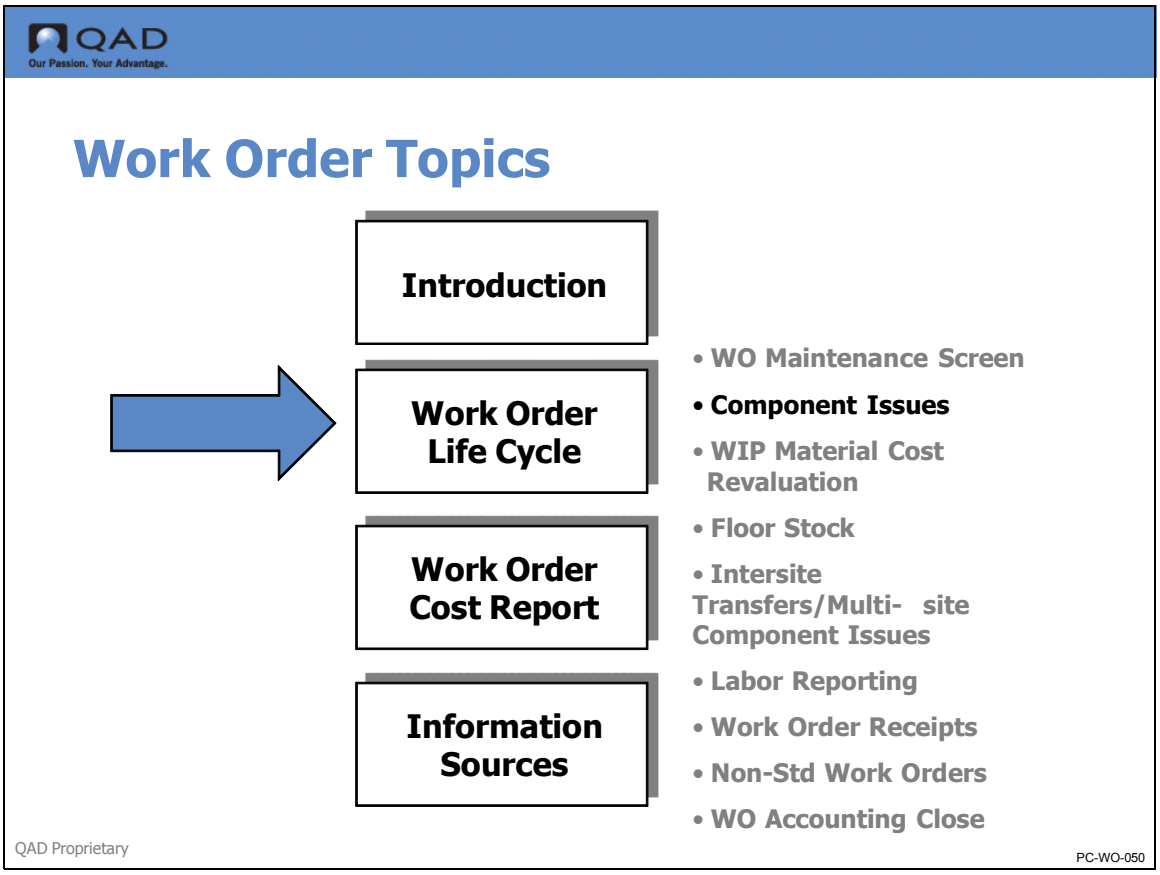
BOM and Routing. These will default from the Item (Site) Planning data menu, 1.4, and generally reflect the BOM and routing codes used to cost the item. Approved alternates can be added if the status is [E]xploded, [A]llocated, or [R]eleased.

Post Variances at SFC. This flag defaults from the Work Order Account Control (56.9.11), setting, but may be changed manually for each work order in Work Order Maintenance (16.1).

- If this is set to Yes, QAD Enterprise Applications will calculate labor rate and usage variances upon labor input and create GL transactions
- If set to No, QAD Enterprise Applications will calculate variances but not move them until a receipt is processed. This modulates the variances when operations span more than one shift or day or employee.

Project. If a project code is entered, this code will be added to each GL transaction processed for this order.

Accounts. These are the default accounts and may be changed for this work order.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Work Order Topics
Introduction
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Information Sources
• WO Maintenance Screen
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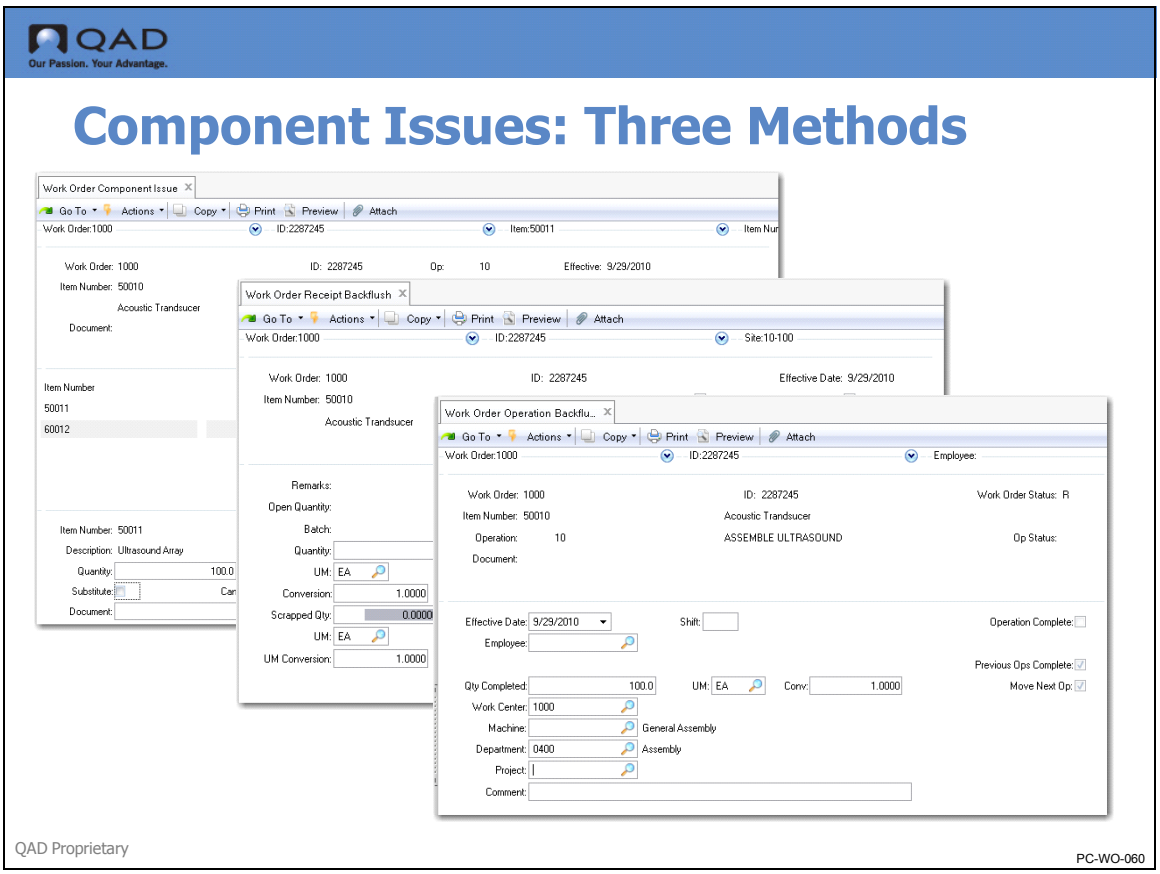
• WO Accounting Close
QAD Proprietary
PC-WO-050

Component Issues



Component materials can be issued in one of three ways:

Work Order Component Issue (16.10)

Most work orders list their required components. When materials are issued from stockroom to manufacturing, a Work Order Component Issue (16.10), records this—decreasing inventory costs and quantities and increasing work in process (WIP).

Work Order Receipt Backflush (16.12)

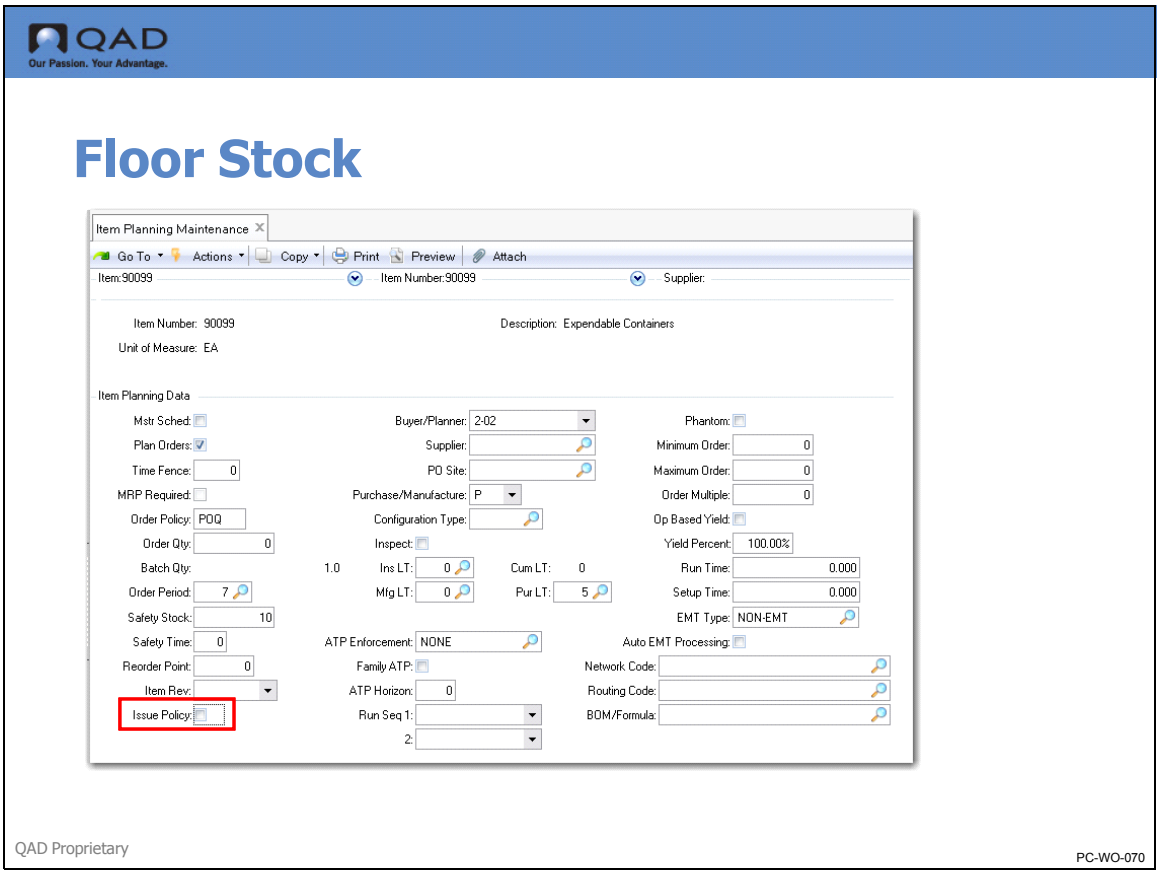
Automatically issues components based on the number of finished items received and the standard quantity required. Additional items can be issued or quantities can be changed manually. Standard costs are used.

Work Order Operation Backflush (16.19)

Use Work Order Operation Backflush to report production activity on manufacturing work orders. This program combines issuing, reporting, and receipt features found in other programs: The issuing functions of Work Order Component Issue; The labor reporting functions of the three labor feedback programs in Shop Floor Control: Labor Feedback by Work Order, Employee, and Work Center; And the receipt functions of Work Order Receipt

Each time you use this transaction to report production quantities, the system does one or more of the following: Issues (backflushes) components to the operation at which you are reporting; Backflushes labor and burden to the reporting operation; Moves the quantity processed to the input queue of the subsequent operation, if Move Next Op is Yes in this program; Receives completed end items into inventory when you report production at the final operation in the routing and Move Next Op is Yes.

At this time, it also updates the quantity completed and reduces the quantity open on the applicable work order.

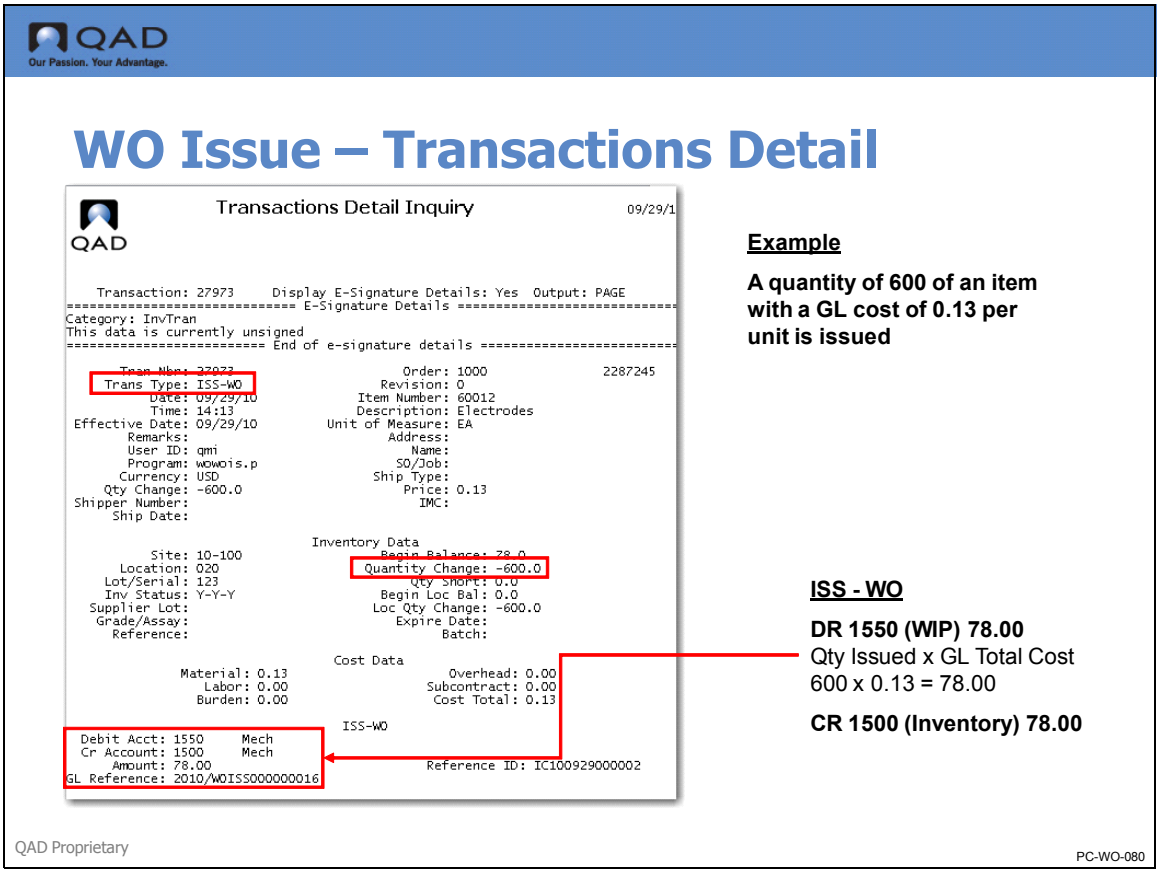


Floor Stock using Item Planning Maintenance (1.4.7)

Floor stock components (Issue Policy = No in Item Master Maintenance (1.4.1), Item Planning Maintenance (1.4.7), or Item Site Planning Maintenance(1.4.17)), which are issued to the floor in bulk rather than for individual orders, appear on the Work Order Component Issue screen with Quantity Required as zero. These items should not be issued here, but from stock using Issues Unplanned (3.7). Floor stock costs are charged to the work order during the Work Order Accounting Close (16.21), prior to calculating variances.

Issue Policy = No should only be used for very inexpensive items that are hard to control such as small screws and washers. With backflush capability even these items can be accounted for at standard directly to the work order.

Work Order Issue—Transactions Detail



When materials are issued by Work Order Issue (16.10), or Work Order Receipt Backflush (16.12), a general ledger transaction is created to record the issue.

The most common situation is when materials are issued from the same site as the work order, creating a GL transaction as follows.

- Component materials are issued from inventory at their total GL cost

  Credits Inventory account defined in Inventory Account Maintenance (1.2.13), for the product line, issue site, and issue location if a record exists; otherwise uses Product Line Maintenance (1.2.1)

- This entire amount is now considered part of Work in Process

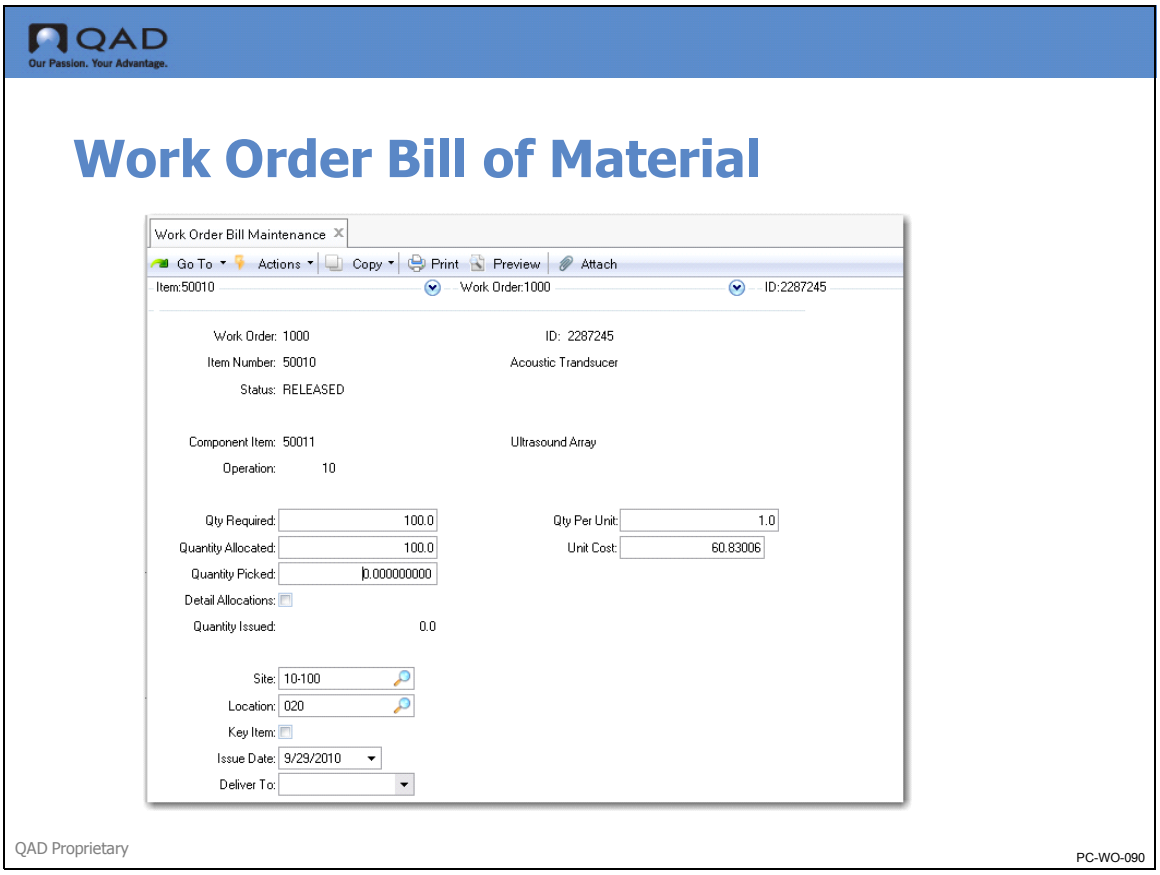
  Debits WIP account from the work order

- If the cost of the components issued does not match the frozen cost in the work order bill (Work Order Bill Maintenance (16.13.1)), a material rate variance results. This compares the total GL cost of the item issued (it may be a substitute) to the frozen cost. The difference is removed from WIP (credit WIP) and booked as a material rate variance (debit Material Rate Variance). (See Material Rate Variance.)

  The frozen cost is created when the work order is Exploded, Allocated, or Released; a WIP Revalue updates the frozen standard cost

  Floor Stock and Unplanned Issues will not create material rate variances

Note The general ledger transaction created by a work order component issue is easily traced. Its type is IC, indicating that it is generated by an inventory transaction and its description indicates that it was a work order issue, ISS-WO, and identifies the work order number.



Work Order Bill of Material

Work order bills list components required for a work order. The standard bill for the item-site is used initially, but can be changed manually. Work order bills control component picking and issuing, and provide standards against which variances are calculated.

Work order explosion or release generates a bill automatically. These Bills can be modified using Work Order Bill Maintenance 16.13.1. As the work order moves through manufacturing, the work order bill tracks the status of each item number, indicating whether it is allocated, printed on a picklist, or issued. Quantity issued is used to calculate work order cost.

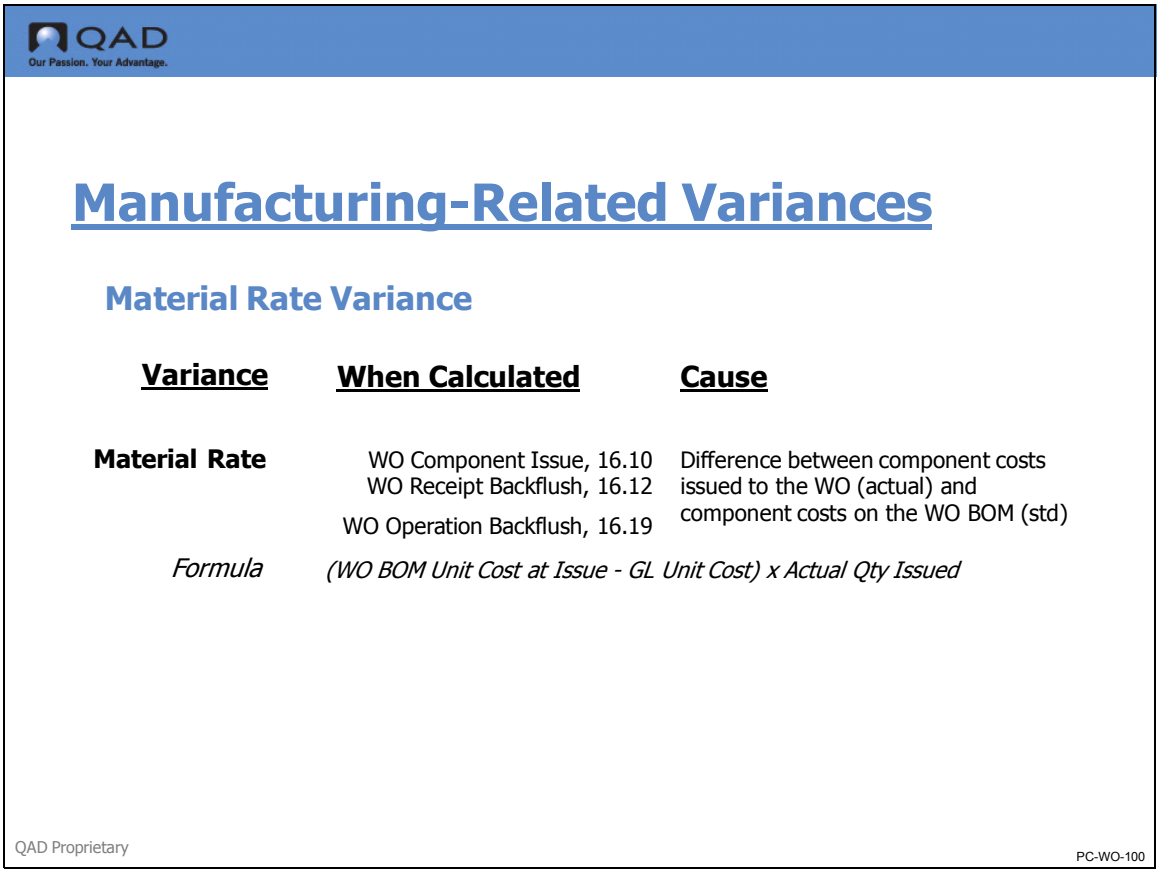
Each item number is listed with the quantity required and the issue site. Quantity required is calculated by multiplying the quantity per unit on the bill by the work order quantity, then adjusting for scrap percentage. Site defaults to the work order site.

When using standard costing, material rate and usage variances are calculated based on the standards in work order bill.

Material Rate Variance. Calculated when material is issued to the work order, this is the difference between the standard item cost and the cost in the work order bill, each multiplied by the quantity issued. Variances result from issuing items from another site where they have a different cost, issuing a substitute, or from changing standard costs without running the WIP Material Cost Revaluation to reflect new standards in existing bills.

Material Usage Variance. Calculated by the Work Order Accounting Close. The system determines Earned Quantity, which is the expected component quantities from the work order bill to make the quantity reported complete or scrapped. Earned quantity is compared to actual issues (at item standard cost). Any difference is posted as a variance.

Material Rate Variance



Material Rate Variance is calculated as the difference between the GL cost of an item at the time it is issued to a work order and the frozen cost of the item in the work order bill. This variance is calculated when material is issued to a work order by Work Order Component Issue (16.10), Work Order Receipt Backflush (16.12), or Work Order Operation Backflush (16.19)

This variance is calculated as:

(WO BOM Unit Cost at Issue - GL Unit Cost) x Actual Qty Issued

The material usage variance is calculated at work order accounting close and is dealt with later in the course.

Issue Components—GL Effect

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Issue Components – GL Effect

Component Issue from WO site	GL Trans Type
DR WIP CR Inventory	IC
* DR Material Rate Variance CR WIP	IC

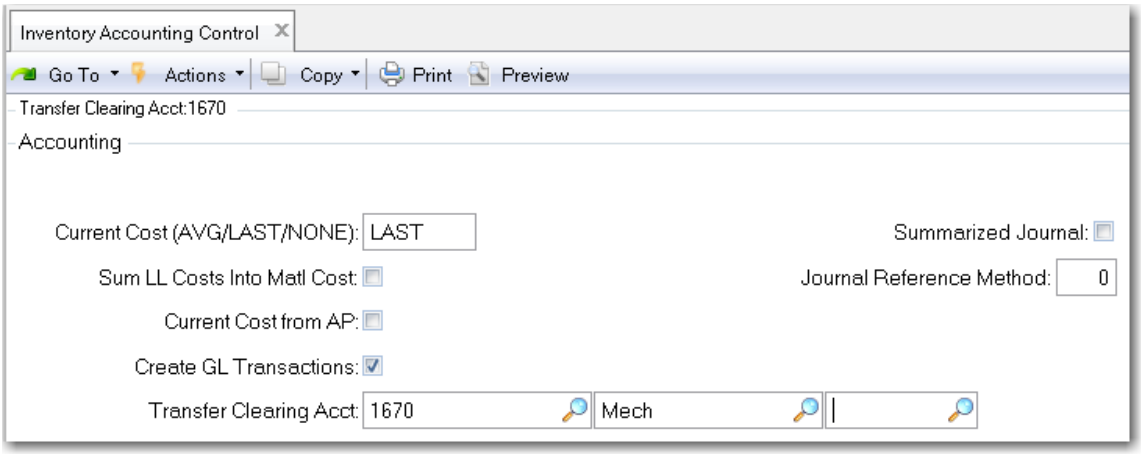
* Positive amounts = unfavorable variance;
Negative amounts = favorable variance

PC-WO-110

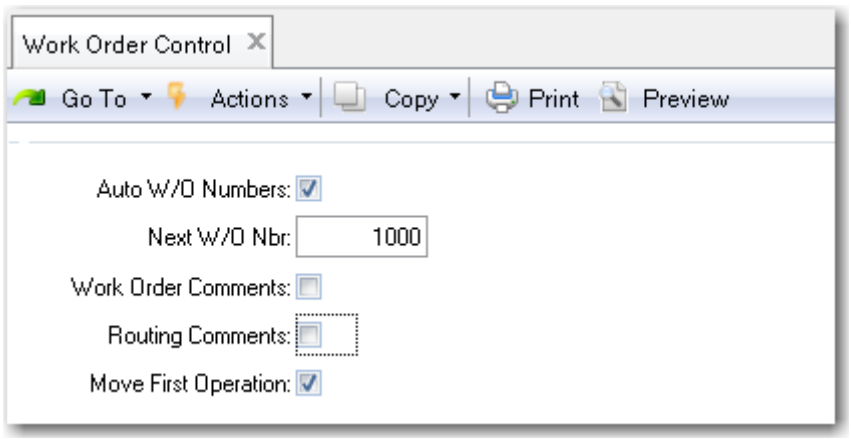
Exercise 1: Review Accounting Records

1 Review the Domain/Account Control 36.9.24. You should be in Entity 10USACO, If not check the workspace you are in, it should be 10USA USA Division [USD], the currency code in brackets is the currency for this entity. Use the next button to cycle through all the screens to insure that all account fields have a value in them. Not all sub-account or cost center fields will have values. You may wish to uncheck the Verify GL Accounts selection.

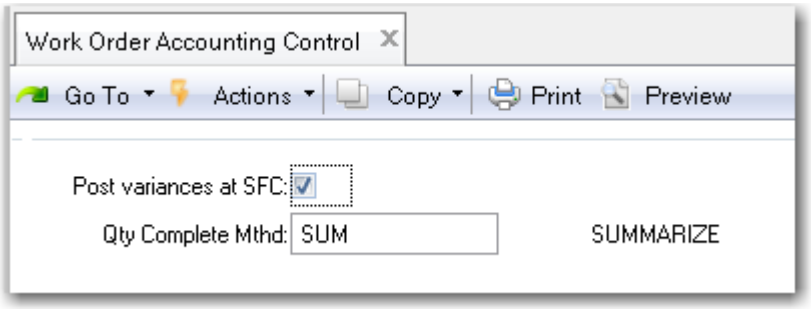
2 Review the Inventory Accounting Control 36.9.2. (In QAD SE this is in the Inventory Control 3.24) Set the Current Cost field to LAST. This allows the system to update current costs automatically based on the last purchase cost or work order cost and insures the system will generate variances when these costs differ from the GL or Standard cost. The use of average costing is covered in another course.



3 Review the Work Order Control 16.24, uncheck work order and routing comments. Check Move First operation, this will automatically move a released work order to the first operation.

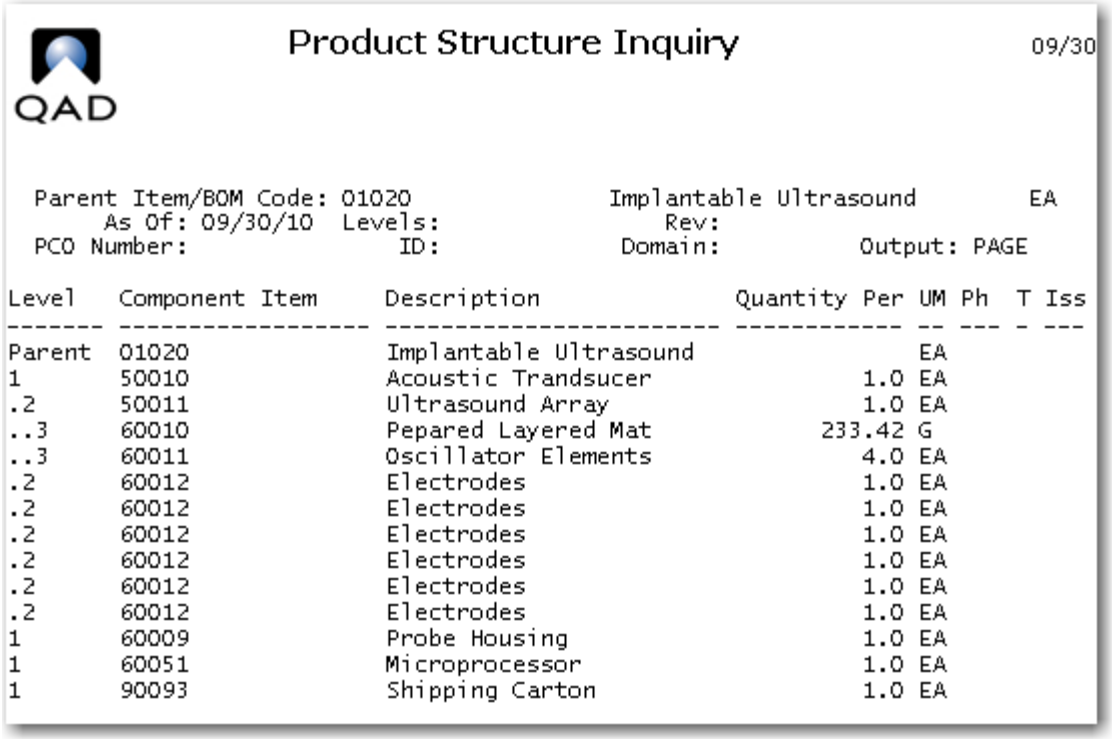


4 Review the Work Order Accounting Control 36.9.11, verify that the Post Variances at SFC (Shop Floor Control) is checked (Yes). This will post variances (if any) at the time shop floor transactions are done. If unchecked, variances are not posted until Work Order Accounting Close.



Exercise 2: Setup for Work Order Activity

1 Review the Product Structure of the 01020, Implantable Ultrasound. Use 13.6

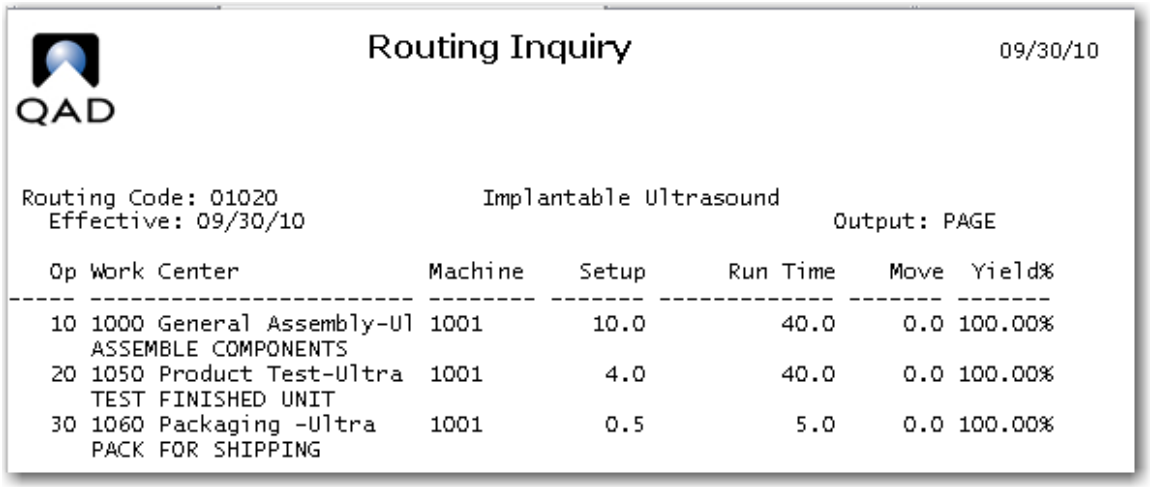


Product Structure Inquiry 09/30

Parent Item/BOM Code: 01020 Implantable Ultrasound EA
As Of: 09/30/10 Levels: Rev:
PCO Number: ID: Domain: Output: PAGE

Level	Component Item	Description	Quantity Per	UM	Ph	T	Iss
Parent	01020	Implantable Ultrasound		EA			
1	50010	Acoustic Trandsucer	1.0	EA			
.2	50011	Ultrasound Array	1.0	EA			
..3	60010	Pepared Layered Mat	233.42	G			
..3	60011	Oscillator Elements	4.0	EA			
.2	60012	Electrodes	1.0	EA			
.2	60012	Electrodes	1.0	EA			
.2	60012	Electrodes	1.0	EA			
.2	60012	Electrodes	1.0	EA			
.2	60012	Electrodes	1.0	EA			
.2	60012	Electrodes	1.0	EA			
1	60009	Probe Housing	1.0	EA			
1	60051	Microprocessor	1.0	EA			
1	90093	Shipping Carton	1.0	EA			

2 Review the Route for the 01020, Implantable Ultrasound. Use 14.13.3.



Routing Inquiry 09/30/10

Routing Code: 01020 Implantable Ultrasound
Effective: 09/30/10 Output: PAGE

Op	Work Center	Machine	Setup	Run Time	Move	Yield%
10	1000 General Assembly-Ul ASSEMBLE COMPONENTS	1001	10.0	40.0	0.0	100.00%
20	1050 Product Test-Ultra TEST FINISHED UNIT	1001	4.0	40.0	0.0	100.00%
30	1060 Packaging -Ultra PACK FOR SHIPPING	1001	0.5	5.0	0.0	100.00%

For these activities you will modify many elements of the data for these items. This will provide a review of the cost setup and provide knowledge of the cost elements for this item.

3 Modify the route for item 01020, use 14.13.1 to change the setup and run times as shown. The setup time for operation 10 and 20 is 1 hour and no setup for operation 30. The run time for operation 10 and 20 is 2 hours and for operation 30 1 hour.

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Routing Inquiry 09/30/10

Routing Code: 01020 Implantable Ultrasound
Effective: 09/30/10 Output: PAGE

Op	Work Center	Machine	Setup	Run Time	Move	Yield%
10	1000 General Assembly-Ul ASSEMBLE COMPONENTS	1001	1.0	2.0	0.0	100.00%
20	1050 Product Test-Ultra TEST FINISHED UNIT	1001	1.0	2.0	0.0	100.00%
30	1060 Packaging -Ultra PACK FOR SHIPPING	1001	0.0	1.0	0.0	100.00%

4 Modify the Route for the 50010 as shown in this graphic. Make setup at Op 10 1 Hour and at all others zero. Run time is 1 hour at operations 10 and 20. Operation 15 is a subcontract operation, set its subcontract cost to 1.00 and uncheck the comments box.

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Routing Inquiry 09/30/10

Routing Code: 50010 Acoustic Trandsucer
Effective: 09/30/10 Output: PAGE

Op	Work Center	Machine	Setup	Run Time	Move	Yield%
10	1000 General Assembly ASSEMBLE ULTRASOUND		1.0	1.0	0.0	100.00%
15	2270 Subcontract Supplie Subc Attach Elec/Plate		0.0	0.0	0.0	100.00%
20	1040 Electical Test TEST ACOUSTIC TRANSDUCER		0.0	1.0	0.0	100.00%

The 1.00 cost of operation 15 can be seen on the Routing Cost Report

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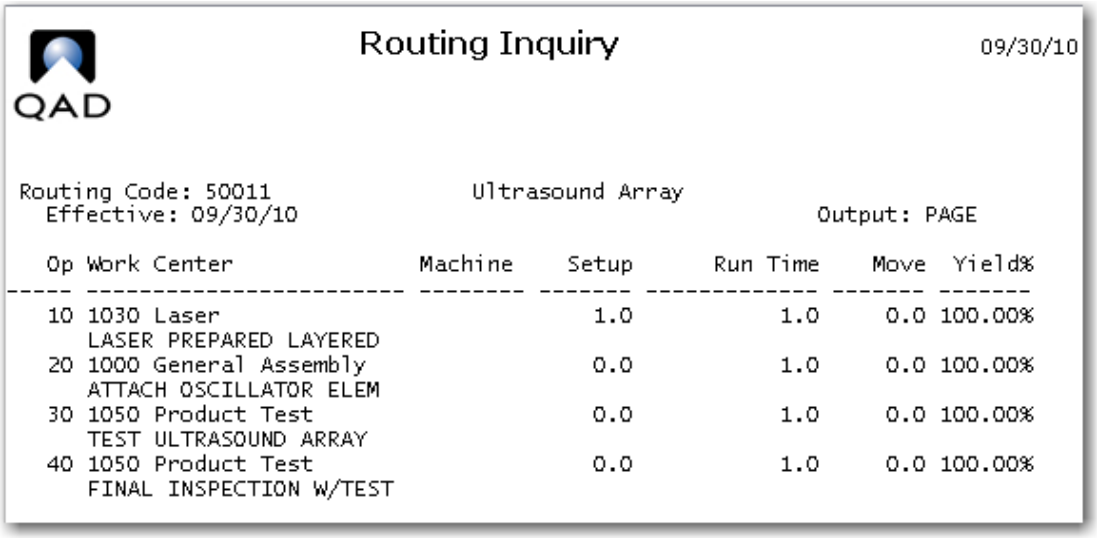
Routing Cost Report 09/30/10 1

10USA

	Work Ctr / Machine	Setup Time / Order Qty	Setup cost / Unit Run	Setup Rate / Labor Rate	Labor Cost	Lbr Bdn % / Mch per Op	Lbr Bdn Rate / Mch Bdn Rate	Lbr Burden / Mch Burden	Total Burden	Subcontract
Routing: 50010										
Op: 10	ASSEMBLE ULTRASOUND									
	1000	1.0	5.00	5.00		10.00%	0.00	1.00		
		1.0	1.00	5.00	10.000	1	1.00	2.00	3.00	0.00
Op: 15	Subc Attach Elec/Plate									
	2270	0.0	0.00	0.00		0.00%	0.00	0.00		
		1.0	0.00	0.00	00.000	1	0.00	0.00	0.00	1.00
Op: 20	TEST ACOUSTIC TRANSDUCER									
	1040	0.0	0.00	5.00		10.00%	0.00	0.50		
		1.0	1.00	5.00	05.000	1	1.00	1.00	1.50	0.00
					15.000				4.50	1.00

5 Modify the Route for the 50011 as shown in this graphic. Make setup at Op 10 1 Hour and the yield 100%, setup at all other Ops is zero, run time is one hour at all operations



Routing Inquiry 09/30/10

Routing Code: 50011 Ultrasound Array
Effective: 09/30/10 Output: PAGE

Op	Work Center	Machine	Setup	Run Time	Move	Yield%
10	1030 Laser LASER PREPARED LAYERED		1.0	1.0	0.0	100.00%
20	1000 General Assembly ATTACH OSCILLATOR ELEM		0.0	1.0	0.0	100.00%
30	1050 Product Test TEST ULTRASOUND ARRAY		0.0	1.0	0.0	100.00%
40	1050 Product Test FINAL INSPECTION W/TEST		0.0	1.0	0.0	100.00%

6 Modify the This Level Material Cost data for purchased items. Use 1.4.9 and the exploded product structure above. Use a short cut and enter the new material costs directly into the GL Cost Data Set AND the Current Cost Data Set for site 10-100

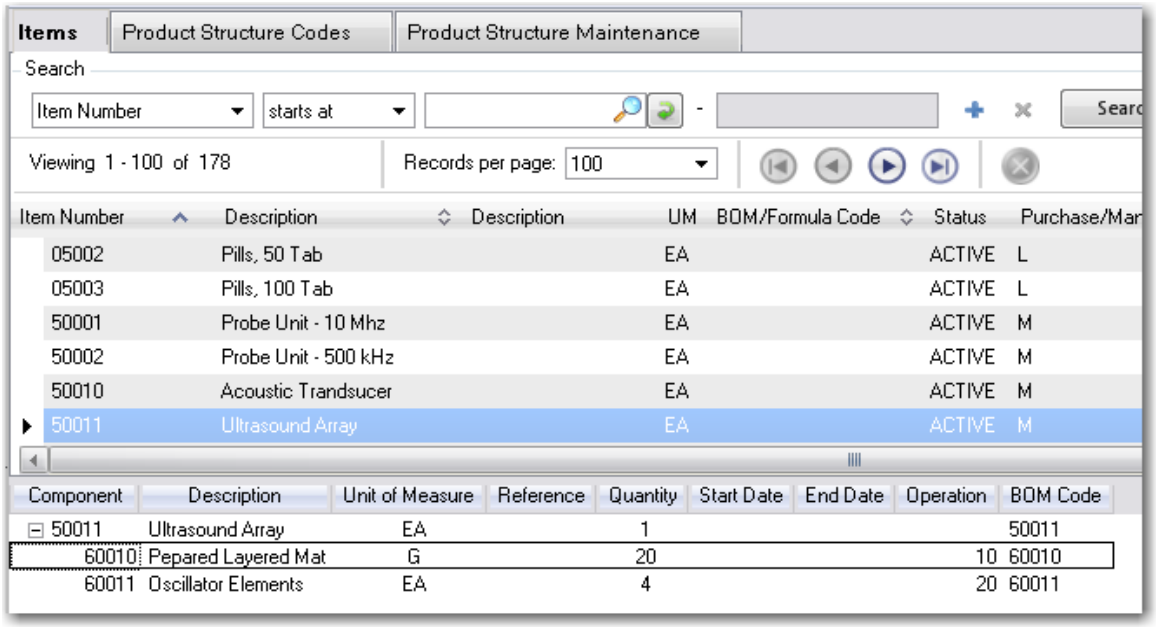
Item	Material	Overhead
60010	1.00	1.00
60011	1.00	
60012	1.00	
60009	30.00	
60051	300.00	
90093	1.00	

Only the 60010 gets an overhead cost.

7 Modify the Work Center Data as follows: Use 14.5

W.C.	Mach	Mach Bur	Labor	Setup	Lab Bur Rt	Lab. Bur %
1000		1.00	5.00	5.00	0.00	10
1000	1001	1.00	25.00	25.00	0.00	10
1030		1.00	5.00	5.00	0.00	10
1040		1.00	5.00	5.00	0.00	10
1050		1.00	5.00	5.00	0.00	10
1050	1001	1.00	25.00	25.00	0.00	10
1060	1001	1.00	25.00	25.00	0.00	10

8 Modify the Product Structure of the 50011 Ultrasound Array to call for 20 G of the 60010 Prepared Layer Mat



9 Many of the items are either serial or lot controlled. To simplify the activity delete either the S or the L from the Lot/Serial field, use 1.4.5 for these items:

Item No.	Lot/Serial is	Make
01020	S	Blank
50010	S	Blank
50011	S	Blank
60010	L	Blank
60011	L	Blank
60012	L	Blank
60051	S	Blank

10 Run the Routing Cost Roll Up and the Product Structure Cost Roll Up for the entire data base using the Standard - GL cost data set. Note the rollup defaults to current; you need to change it to Standard. Then review the Product Structure Cost Report.

Site: 10-100 Cost Set: Standard

Level	Component Item	Quantity Per	Q	UM	T	Material	Labor	Burden	Overhead	Subcontract	Cost Total
Parent	01020										
	Implantable Ultrasound	This Level				0.00	175.00	24.50	0.00	0.00	199.50
	09/30/10	Lower Level				361.00	40.00	12.00	20.00	1.00	434.00
		Unit Total				361.00	215.00	36.50	20.00	1.00	633.50
1	50010	1.0		EA							
	Acoustic Trandsucer	This Level				0.00	15.00	4.50	0.00	1.00	20.50
	09/30/10	Lower Level				30.00	25.00	7.50	20.00	0.00	82.50
		Unit Total				30.00	40.00	12.00	20.00	1.00	103.00
		Ext Total				30.00	40.00	12.00	20.00	1.00	103.00
.2	50011	1.0		EA							
	Ultrasound Array	This Level				0.00	25.00	7.50	0.00	0.00	32.50
	09/30/10	Lower Level				24.00	0.00	0.00	20.00	0.00	44.00
		Unit Total				24.00	25.00	7.50	20.00	0.00	76.50
		Ext Total				24.00	25.00	7.50	20.00	0.00	76.50
..3	60010	20.0		G							
	Pepared Layered Mat	This Level				1.00	0.00	0.00	1.00	0.00	2.00
	09/30/10	Lower Level				0.00	0.00	0.00	0.00	0.00	0.00
		Unit Total				1.00	0.00	0.00	1.00	0.00	2.00
		Ext Total				20.00	0.00	0.00	20.00	0.00	40.00
..3	60011	4.0		EA							
	Oscillator Elements	This Level				1.00	0.00	0.00	0.00	0.00	1.00
	09/30/10	Lower Level				0.00	0.00	0.00	0.00	0.00	0.00
		Unit Total				1.00	0.00	0.00	0.00	0.00	1.00
		Ext Total				4.00	0.00	0.00	0.00	0.00	4.00
.2	60012	6.0		EA							
	Electrodes	This Level				1.00	0.00	0.00	0.00	0.00	1.00
	09/30/10	Lower Level				0.00	0.00	0.00	0.00	0.00	0.00
		Unit Total				1.00	0.00	0.00	0.00	0.00	1.00
		Ext Total				6.00	0.00	0.00	0.00	0.00	6.00
1	60009	1.0		EA							
	Probe Housing	This Level				30.00	0.00	0.00	0.00	0.00	30.00
	09/30/10	Lower Level				0.00	0.00	0.00	0.00	0.00	0.00
		Unit Total				30.00	0.00	0.00	0.00	0.00	30.00
		Ext Total				30.00	0.00	0.00	0.00	0.00	30.00
1	60051	1.0		EA							
	Microprocessor	This Level				300.00	0.00	0.00	0.00	0.00	300.00
	09/30/10	Lower Level				0.00	0.00	0.00	0.00	0.00	0.00
		Unit Total				300.00	0.00	0.00	0.00	0.00	300.00
		Ext Total				300.00	0.00	0.00	0.00	0.00	300.00
1	90093	1.0		EA							
	Shipping Carton	This Level				1.00	0.00	0.00	0.00	0.00	1.00
	09/30/10	Lower Level				0.00	0.00	0.00	0.00	0.00	0.00
		Unit Total				1.00	0.00	0.00	0.00	0.00	1.00
		Ext Total				1.00	0.00	0.00	0.00	0.00	1.00

By having setup the cost data with whole numbers it should be easier to see how the lower level material, labor, burden, overhead, and subcontract costs roll up to the end item level.

To be clear, the two components of the 50011, the 60010 and 60011, (level 3) roll up to the 50011; the costs of the 50011 and the 60012 (level 2) roll up to the 01020 along with the other level1 items.

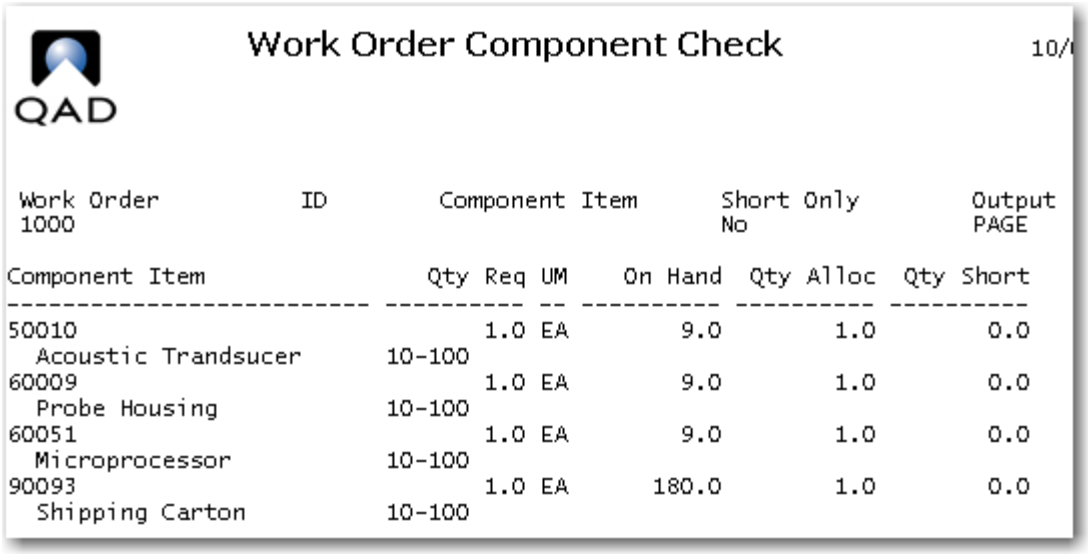
In the material column the This Level cost is multiplied by the Quantity Per to get the Extended Total at each level. This is the cost that is rolled up. The cost of the 60010 is 1.00 and 20 are required, the overhead is also 1.00, the Extended Total of 40.00 is rolled into the Lower Level Material Cost of the 01020.

Burden is only absorbed through Labor so only manufactured items earn burden. The cost of the only subcontract operation is obvious.

Activity 3: Work Order Processing

1 Create a work order for 1 each of the 01020 at site 10-100, use 16.1, work order maintenance. Let the system assign the WO number and ID, set the status to R and accept other values at default.

2 Use 16.5 work order component check to verify inventory of needed components. You \should have enough.

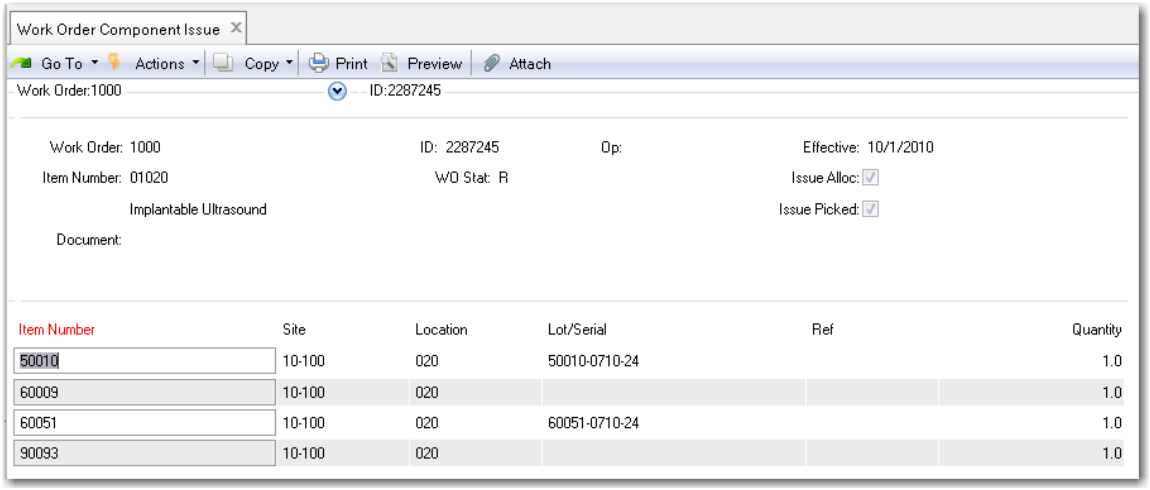


Work Order Component Check 10/

Work Order 1000 ID Component Item Short Only No Output PAGE

Component Item	Qty Req	UM	On Hand	Qty Alloc	Qty Short
50010	1.0	EA	9.0	1.0	0.0
Acoustic Trandsucer	10-100				
60009	1.0	EA	9.0	1.0	0.0
Probe Housing	10-100				
60051	1.0	EA	9.0	1.0	0.0
Microprocessor	10-100				
90093	1.0	EA	180.0	1.0	0.0
Shipping Carton	10-100				

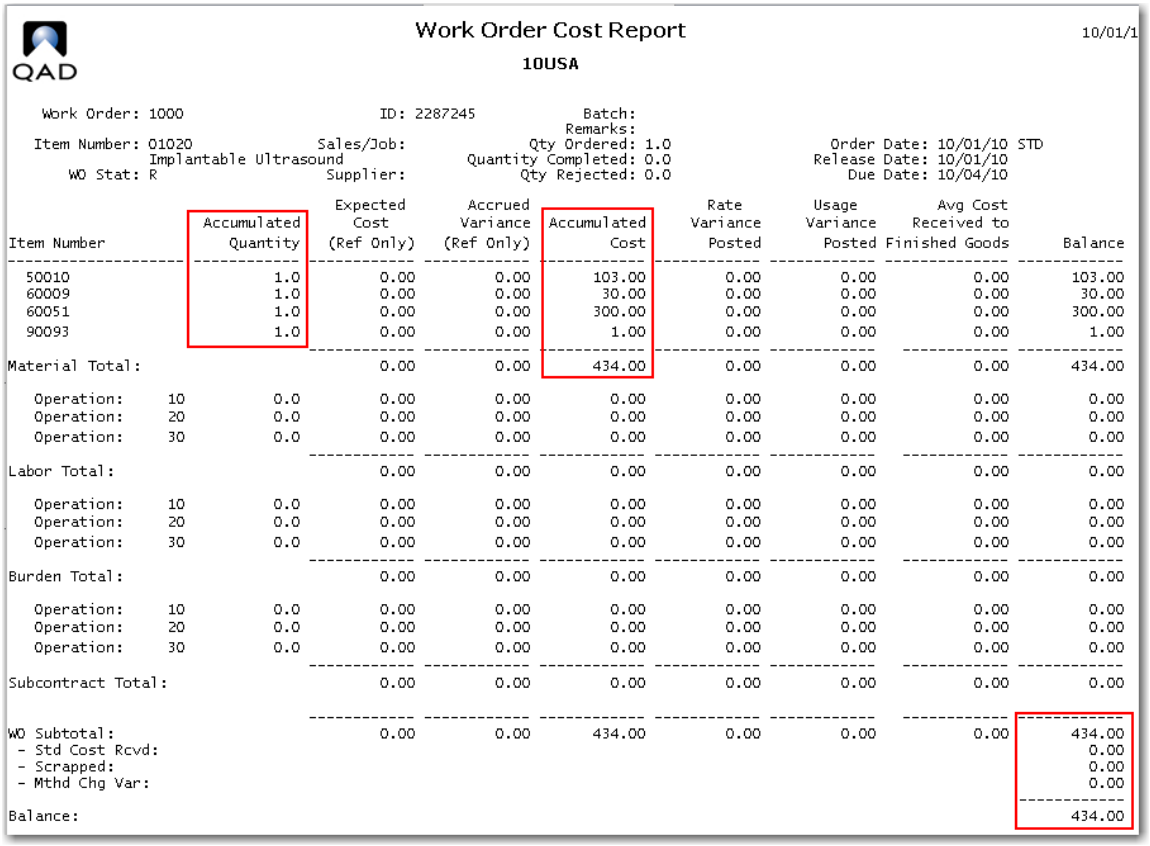
3 Use 16.10 work order component issue to issue the material to the work order. Check both Issue Allocated and Issue Picked to make it easy. When prompted to “Display Items Being Issued” click yes. Your screen should look like this.



Even though you have turned off serial/lot control if the inventory record has a value it will be included with the transaction.

4 Review the transaction detail records for the component issue, use 3.21.1. What transactions do you see and what accounts have been affected? You will have four ISS-WO transactions, one for each component. Each will have a credit to inventory (1500) and a debit to WIP (1550) for the GL Standard cost of the item.

5 Review the work order cost report for your work order, use 16.3.4.



Work Order Cost Report 10/01/1

10USA

Work Order: 1000 ID: 2287245 Batch:
Remarks:
Item Number: 01020 Sales/Job: Qty Ordered: 1.0 Order Date: 10/01/10 STD
Implantable Ultrasound Quantity Completed: 0.0 Release Date: 10/01/10
WO Stat: R Supplier: Qty Rejected: 0.0 Due Date: 10/04/10

Item Number	Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50010	1.0	0.00	0.00	103.00	0.00	0.00	0.00	103.00
60009	1.0	0.00	0.00	30.00	0.00	0.00	0.00	30.00
60051	1.0	0.00	0.00	300.00	0.00	0.00	0.00	300.00
90093	1.0	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Material Total:		0.00	0.00	434.00	0.00	0.00	0.00	434.00
Operation: 10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor Total:		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Burden Total:		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:		0.00	0.00	0.00	0.00	0.00	0.00	0.00
WO Subtotal:		0.00	0.00	434.00	0.00	0.00	0.00	434.00
- Std Cost Rcvd:								0.00
- Scrapped:								0.00
- Mthd Chg Var:								0.00
Balance:								434.00

This report is based on the work order bill and route captured at time of release (or explosion). It is setup with all the components and operations. The accumulated cost and total cost at this time is the component value only.

6 Use work order receipt, 16.11 to receive your work order, for a quantity of one, site and location should default to 10-100 and 010, be sure to check the Close box.

Run the work order cost report again. What are the differences, and can you explain them?

QAD

Work Order Cost Report 10/01/10

10USA

Work Order: 1000 ID: 2287245 Batch:
Remarks:
Item Number: 01020 Sales/Job: Qty Ordered: 1.0 Order Date: 10/01/10 STD
Implantable Ultrasound Quantity Completed: 1.0 Release Date: 10/01/10
WO Stat: C Supplier: Qty Rejected: 0.0 Due Date: 10/04/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50010		1.0	103.00	0.00	103.00	0.00	0.00	0.00	103.00
60009		1.0	30.00	0.00	30.00	0.00	0.00	0.00	30.00
60051		1.0	300.00	0.00	300.00	0.00	0.00	0.00	300.00
90093		1.0	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Material Total:			434.00	0.00	434.00	0.00	0.00	0.00	434.00
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Burden Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00
WO Subtotal:			434.00	0.00	434.00	0.00	0.00	0.00	434.00
- Std Cost Rcvd:									-633.50
- Scrapped:									0.00
- Mthd Chg Var:									0.00
Balance:									-199.50

The system has added values to the Expected Cost column and the “Standard Cost Received” and calculated a balance. No labor was reported through shop floor control and closing the work order does not book labor and burden at standard. The stand cost received is the GL Standard for item 01020. The -199.50 looks like a favorable variance.

7 Review the current cost for the 01020, use 1.4.9, what has happened? The current cost has been updated to the 434.00 reflected by this work order cost.

8 Use unposted transaction inquiry 25.13.13, Put WO in the Reference ID field to limit the inquiry to work order transactions. Are there any? No there are not.

9 Run work order accounting close, use 16.21, what has happened?

Review the report of the work order accounting close.

QAD

Work Order Accounting Close

10USA

Work Order	ID	Item Number	Site	Qty Ordered	Qty Completed	Qty Rejected	SO/Job	Project	E
1000	2287245 Implantable Ultrasound	01020	10-100	1.0	1.0	0.0			1

Reference ID	Type	DR Acct	Sub-Acct	CC	Description	Cr Acct	Sub-Acct	CC	Description	Amount
WO1010010000001	WO-CLOSE	1550	Mech		Inventory WIP	5120	Mech	mfg	Labor Absorbed	25.00
WO1010010000002	WO-CLOSE	1550	Mech		Inventory WIP	5220	Mech	mfg	Burden Absorbed	3.50
WO1010010000003	WO-CLOSE	1550	Mech		Inventory WIP	5120	Mech	mfg	Labor Absorbed	25.00
WO1010010000004	WO-CLOSE	1550	Mech		Inventory WIP	5120	Mech	mfg	Labor Absorbed	50.00
WO1010010000005	WO-CLOSE	1550	Mech		Inventory WIP	5220	Mech	mfg	Burden Absorbed	3.50
WO1010010000006	WO-CLOSE	1550	Mech		Inventory WIP	5220	Mech	mfg	Burden Absorbed	7.00
WO1010010000007	WO-CLOSE	1550	Mech		Inventory WIP	5120	Mech	mfg	Labor Absorbed	25.00
WO1010010000008	WO-CLOSE	1550	Mech		Inventory WIP	5120	Mech	mfg	Labor Absorbed	50.00
WO1010010000009	WO-CLOSE	1550	Mech		Inventory WIP	5220	Mech	mfg	Burden Absorbed	3.50
WO1010010000010	WO-CLOSE	1550	Mech		Inventory WIP	5220	Mech	mfg	Burden Absorbed	7.00
	Method Change	6800	Mech		Method Variance	1550	Mech		Inventory WIP	0.00

Running work order accounting close has booked labor and burden at GL Standard. As there are only three operations, can you explain why there are five sets of labor/burden transactions? Note the method change variance is always calculated but here is zero.

Review the operation cost report for the 01020, this should help you figure out what how the transactions are being booked.

QAD

Routing Cost Report

10/01/10 12:

10USA

P

	Work Ctr / Machine	Setup Time / Order Qty	Setup cost / Unit Run	Setup Rate / Labor Rate	Labor Cost	Lbr Bdn % / Mch per Op	Lbr Bdn Rate / Mch Bdn Rate	Lbr Burden / Mch Burden	Total Burden	Subcontract
Routing: 01020										
Op: 10	ASSEMBLE COMPONENTS									
	1000	1.0	25.00	25.00		10.00%	0.00	7.50		
	1001	1.0	2.00	25.00	75.000	1	1.00	3.00	10.50	0.00
Op: 20	TEST FINISHED UNIT									
	1050	1.0	25.00	25.00		10.00%	0.00	7.50		
	1001	1.0	2.00	25.00	75.000	1	1.00	3.00	10.50	0.00
Op: 30	PACK FOR SHIPPING									
	1060	0.0	0.00	25.00		10.00%	0.00	2.50		
	1001	1.0	1.00	25.00	25.000	1	1.00	1.00	3.50	0.00
					175.000				24.50	0.00

Do you see that the transaction have been created in the reverse order of the operations, such that the first pair of debits to WIP (1550) are 25.00 and 3.50. This is the labor/burden cost of operation 30. The next set of debits are two for labor of 25.00 and 50.00, this is the setup charge and labor charge, respectively, for operation 20. The last set is the labor and burden for operation 10. As labor rates and setup rates are often different the system always books then separately.

10 Run the work order cost report again and see that the labor and burden at standard are now shown for each operation. The WO Subtotal is now 633.50 which is exactly the same as the GL standard cost received into inventory. The balance is now zero indicating the work order was processed exactly on standard.

QAD

Work Order Cost Report 10/01/10

10USA

Work Order: 1000 ID: 2287245 Batch:
Remarks:
Item Number: 01020 Sales/Job: Qty Ordered: 1.0 Order Date: 10/01/10 STD
Implantable Ultrasound Quantity Completed: 1.0 Release Date: 10/01/10
WO Stat: C Supplier: Qty Rejected: 0.0 Due Date: 10/04/10

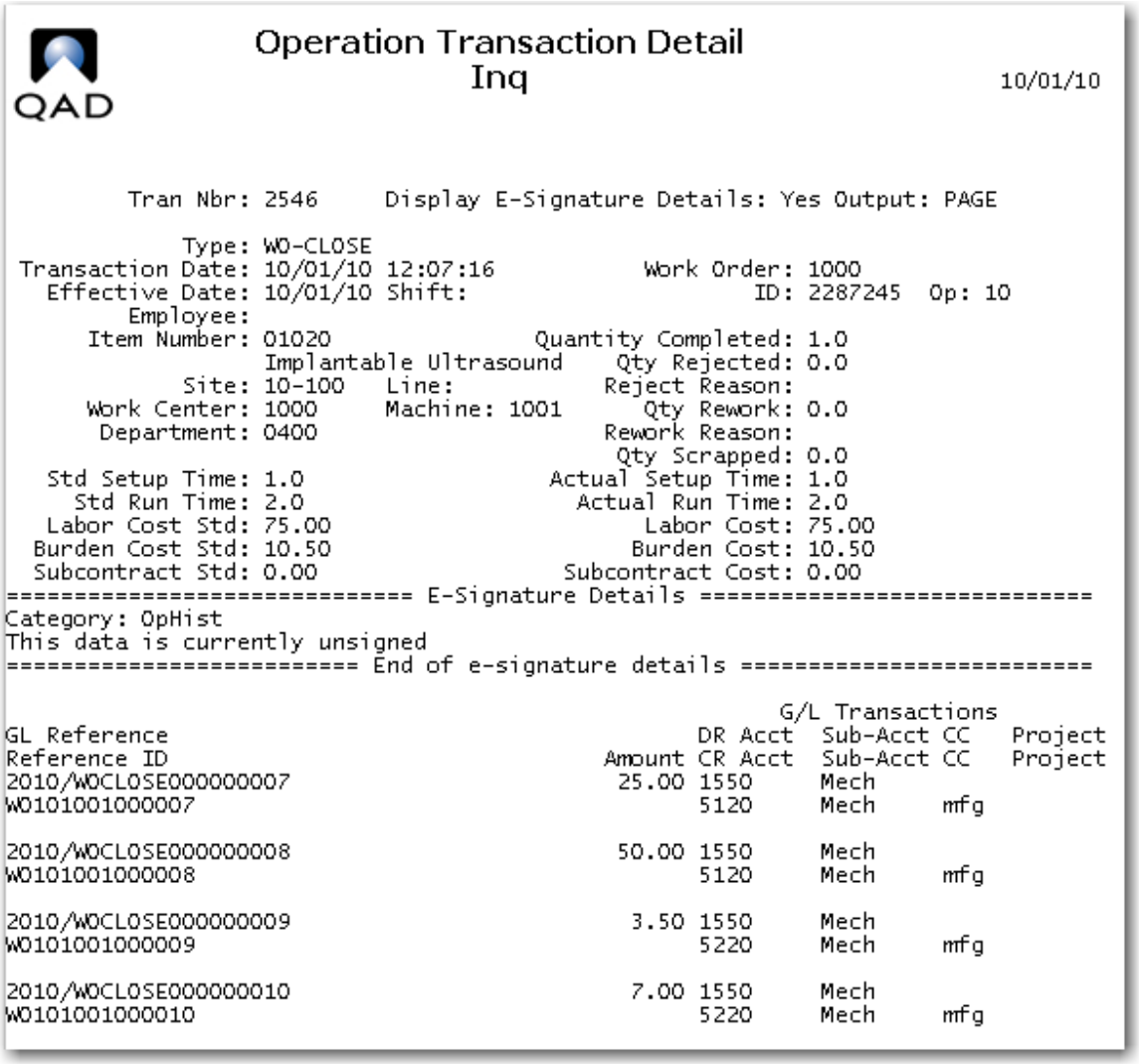
Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50010		1.0	103.00	0.00	103.00	0.00	0.00	0.00	103.00
60009		1.0	30.00	0.00	30.00	0.00	0.00	0.00	30.00
60051		1.0	300.00	0.00	300.00	0.00	0.00	0.00	300.00
90093		1.0	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Material Total:			434.00	0.00	434.00	0.00	0.00	0.00	434.00
Operation:	10	1.0	75.00	0.00	75.00	0.00	0.00	0.00	75.00
Operation:	20	1.0	75.00	0.00	75.00	0.00	0.00	0.00	75.00
Operation:	30	1.0	25.00	0.00	25.00	0.00	0.00	0.00	25.00
Labor Total:			175.00	0.00	175.00	0.00	0.00	0.00	175.00
Operation:	10	1.0	10.50	0.00	10.50	0.00	0.00	0.00	10.50
Operation:	20	1.0	10.50	0.00	10.50	0.00	0.00	0.00	10.50
Operation:	30	1.0	3.50	0.00	3.50	0.00	0.00	0.00	3.50
Burden Total:			24.50	0.00	24.50	0.00	0.00	0.00	24.50
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00
WO Subtotal:			633.50	0.00	633.50	0.00	0.00	0.00	633.50
- Std Cost Rcvd:									-633.50
- Scrapped:									0.00
- Mthd Chg Var:									0.00
Balance:									0.00

11 Review the current cost of the 01020 using 1.4.9, what has happened? The current cost was updated at work order close, and has now been updated again at work order accounting close. As the work order closed at standard the current cost now equals the GL cost.

12 Review the operations accounting report, 16.20.13.10 for a different view of the transactions generated by the work order accounting close.

13 Review the unposted transaction inquiry, 25.13.13. These transactions will post to the GL the next time Transaction Post is run. This inquiry/report gives you an opportunity to review the transactions before posting.

14 12. Review the operation transaction detail inquiry 16.20. This inquiry gives the details for shop floor transaction; much like the inventory transaction detail provides for inventory transactions. You will see three transactions, one for each operation, each with several sets of debits and credits. Notice that the type is WO-CLOSE. This is the complete detail of the transaction shown on the work order accounting close report.



QAD

Operation Transaction Detail Inq

10/01/10

```
        Tran Nbr: 2546     Display E-Signature Details: Yes Output: PAGE

             Type: WO-CLOSE
 Transaction Date: 10/01/10 12:07:16          Work Order: 1000
   Effective Date: 10/01/10 Shift:                  ID: 2287245  Op: 10
         Employee:
      Item Number: 01020               Quantity Completed: 1.0
                   Implantable Ultrasound    Qty Rejected: 0.0
             Site: 10-100   Line:          Reject Reason:
      Work Center: 1000     Machine: 1001      Qty Rework: 0.0
       Department: 0400                     Rework Reason:
                                             Qty Scrapped: 0.0
   Std Setup Time: 1.0                 Actual Setup Time: 1.0
     Std Run Time: 2.0                   Actual Run Time: 2.0
   Labor Cost Std: 75.00                      Labor Cost: 75.00
  Burden Cost Std: 10.50                     Burden Cost: 10.50
  Subcontract Std: 0.00                   Subcontract Cost: 0.00
============================== E-Signature Details ==============================
Category: OpHist
This data is currently unsigned
========================== End of e-signature details ==========================

                                                        G/L Transactions
GL Reference                                        DR Acct  Sub-Acct CC   Project
Reference ID                                 Amount CR Acct  Sub-Acct CC   Project
2010/WOCLOSE000000007                         25.00 1550     Mech
WO1010010000007                                     5120     Mech     mfg

2010/WOCLOSE000000008                         50.00 1550     Mech
WO1010010000008                                     5120     Mech     mfg

2010/WOCLOSE000000009                          3.50 1550     Mech
WO1010010000009                                     5220     Mech     mfg

2010/WOCLOSE000000010                          7.00 1550     Mech
WO1010010000010                                     5220     Mech     mfg
```

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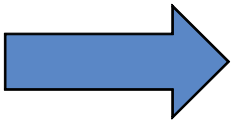
Work Order Topics

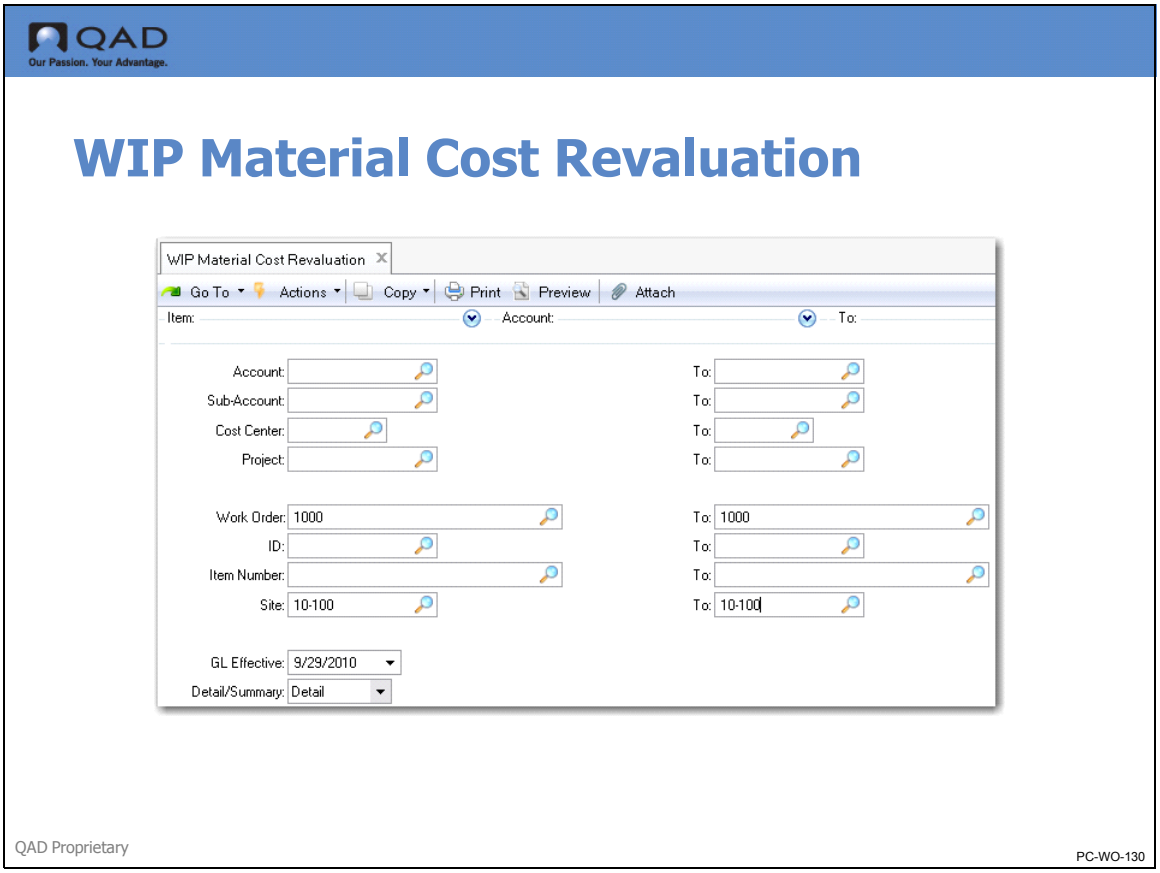


- Introduction
- Work Order Life Cycle
- Work Order Cost Report
- Information Sources

- WO Maintenance Screen
- Component Issues
- **WIP Material Cost Revaluation**
- Floor Stock
- Intersite Transfers/Multi- site Component Issues
- Labor Reporting
- Work Order Receipts
- Non-Std Work Orders
- WO Accounting Close

PC-WO-120

WIP Material Cost Revaluation



In a standard cost environment GL standards are reset on a periodic basis, often once a year.

When the standard cost has been changed after the BOM and routing have been attached to a work order, WIP Material Cost Revaluation (16.22), is used to:

- Update the cost of *unissued* components on the work order bill

  No rate variance will be calculated

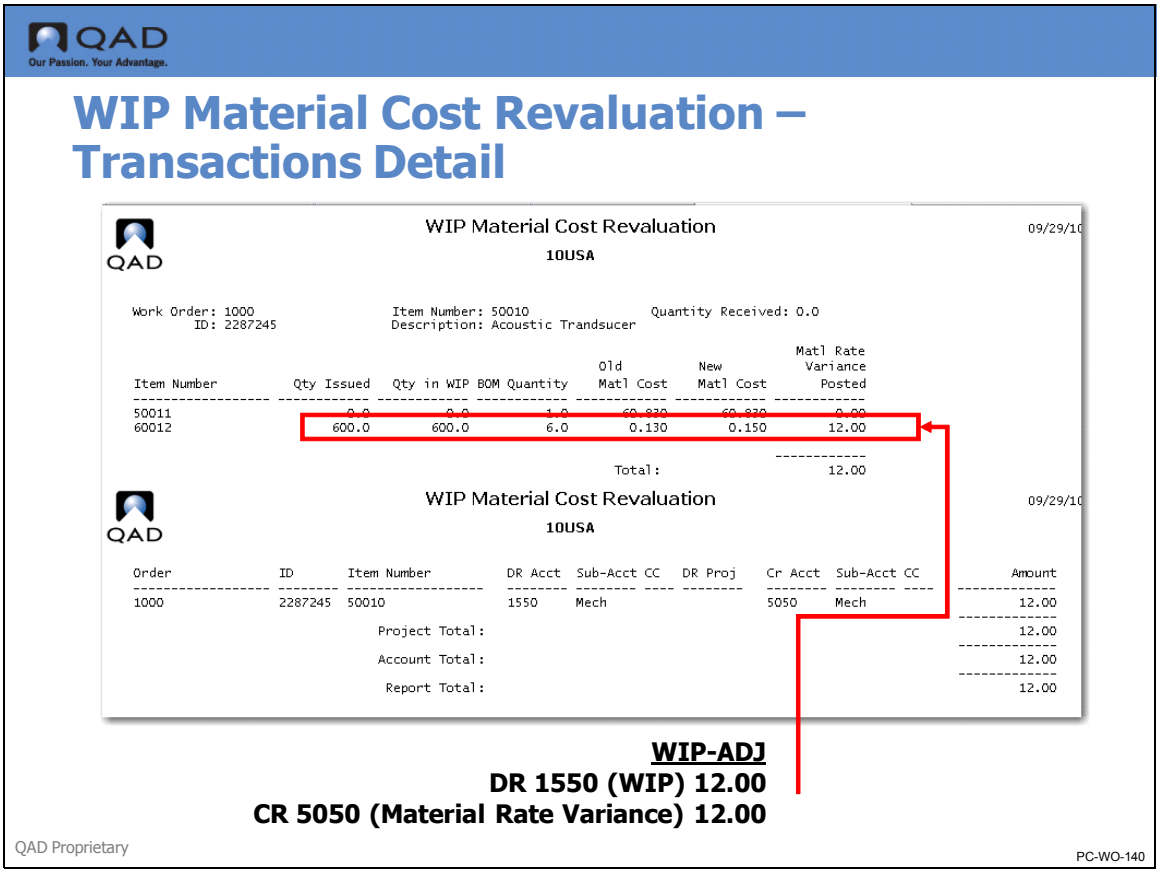
- Update the WIP value of *issued* components

  Rate variances will be calculated if the material has been issued prior to running the WIP Material Cost Revaluation (16.22)

Note This variance is not a purchase price variance. That variance, between the PO and GL cost, is posted to the Purchase Price Variance account.

Once done, a WIP Material Cost Revaluation (16.22) cannot be undone.

WIP Material Cost Revaluation—Transactions Detail



WIP Material Cost Revaluation (16.22), updates the work order bill with the currently effective standard GL cost. For material that has been issued prior to running the WIP Material Cost Revaluation:

For material that has been issued prior to running the WIP Material Cost Revaluation:

- Any difference between the component issue unit cost and the standard cost is posted as a material rate variance

WIP Material Cost Revaluation does not update product structures or labor and burden costs.

In this example the purchase material cost of the 60012 electrode has gone up from 0.13 to 0.15.There is an open order for 100 of the 50010 acoustic transducer which uses 6 each of the 60012. After the standards change the WIP revaluation is run to up date the WO cost the difference between the old standard and the new. The calculation is (*new cost - old cost) x quantity in WIP,* or 0.15-0.13 x 600 = 12.

GL Effect

Debits the WIP account from the work order and credits the Material Rate Variance account found on the work order parent's Product Line record.

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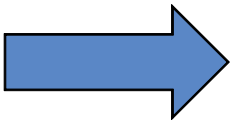
Work Order Topics

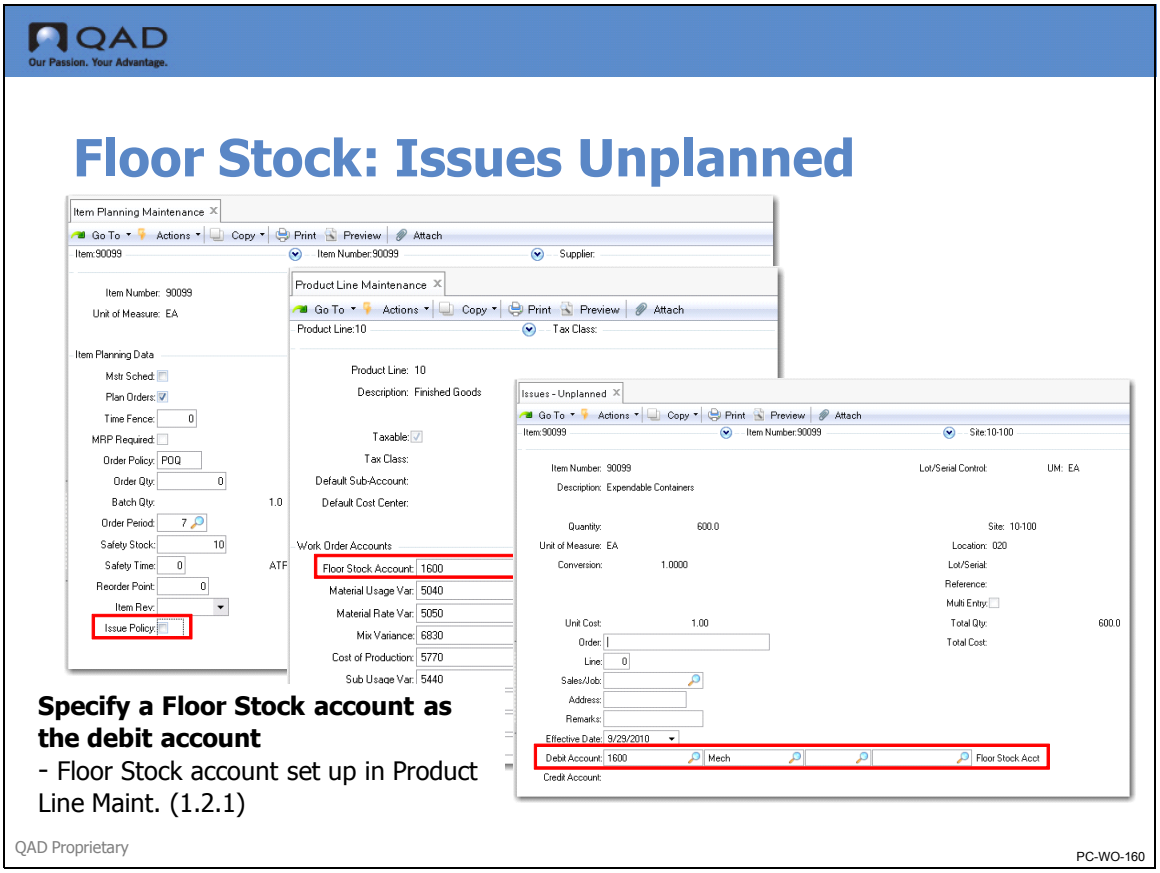


- Introduction
- Work Order Life Cycle
- Work Order Cost Report
- Information Sources

- WO Maintenance Screen
- Component Issues
- WIP Material Cost Revaluation
- **Floor Stock**
- Intersite Transfers/Multi- site Component Issues
- Labor Reporting
- Work Order Receipts
- Non-Std Work Orders
- WO Accounting Close

PC-WO-150

Floor Stock

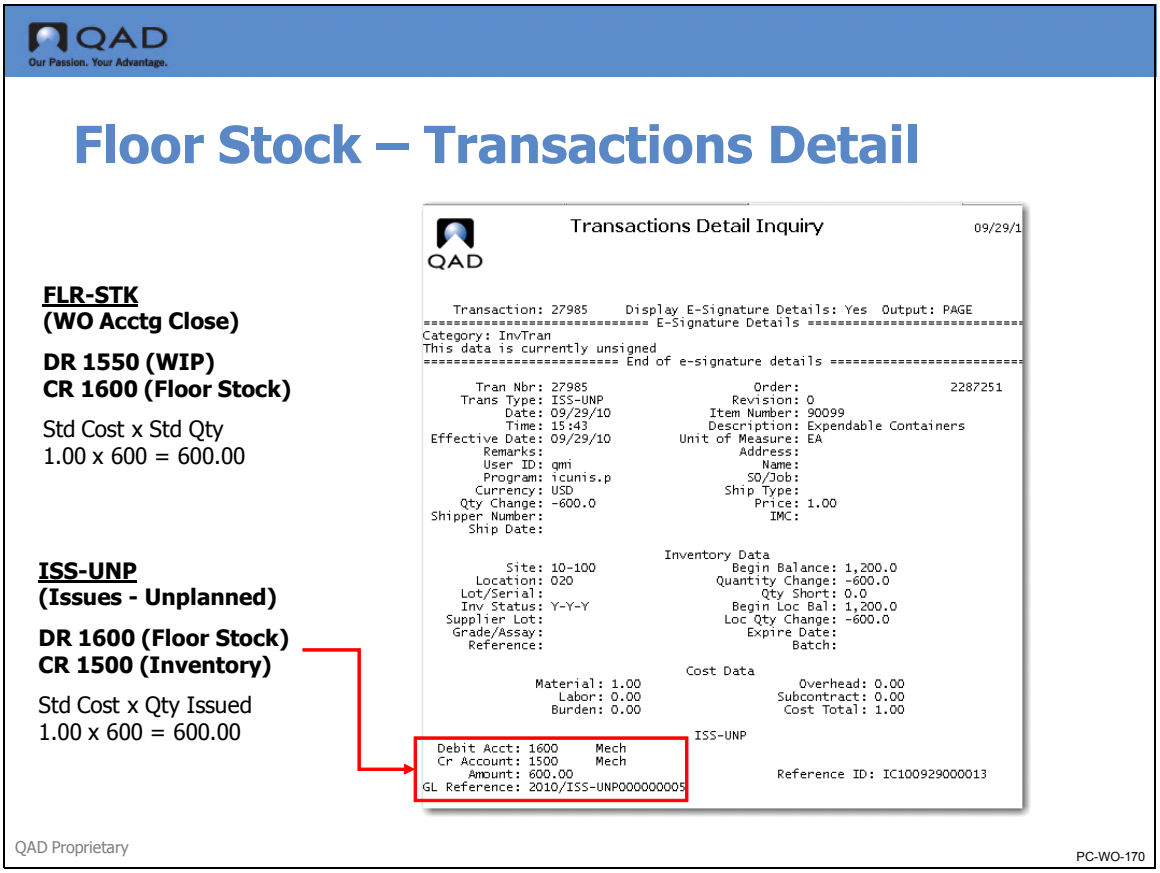


Floor stock items are bulk issue items—nuts and bolts, for example—that are part of the product structure, but that are usually inexpensive and easily replaced; there is not a need to keep track of them individually.

Floor Stock: Set-up

- To use an item as floor stock, change the Issue Policy to No in Item Master Maintenance (1.4.1), Item Planning (1.4.7), or Item-Site Planning Maintenance (1.4.17). Upon work order release/print, the component will be listed in a separate floor stock section on the work order picklist, without a quantity to issue.
- To issue the floor stock components out of inventory to work orders, use Issues Unplanned (3.7). The default debit account is automatically set to the Floor Stock account of the component item's product line. (Note that this might not be the same as the parent item's Floor Stock account. For this reason, the Floor Stock Account should be the same for all product line records. Upon Work Order Accounting Close (16.21), the cost of any floor stock items is debited to WIP and credited to the Floor Stock account specified on the order.

Floor Stock—Transactions Detail



Effects on the GL

Because the cost of bulk issue items is included in the rolled-up GL cost of the finished item, it is necessary to adjust WIP for the cost of these items. Otherwise this cost would get written off incorrectly to variance.

- Floor stock is calculated as the standard cost per unit multiplied by the quantity required. This quantity is posted at standard cost to WIP (debit) and Floor Stock (credit).

  If there is more floor stock issued than the standard calls for, the additional value becomes a method variance

Note These items have been issued and should not be cycle counted back into stock.

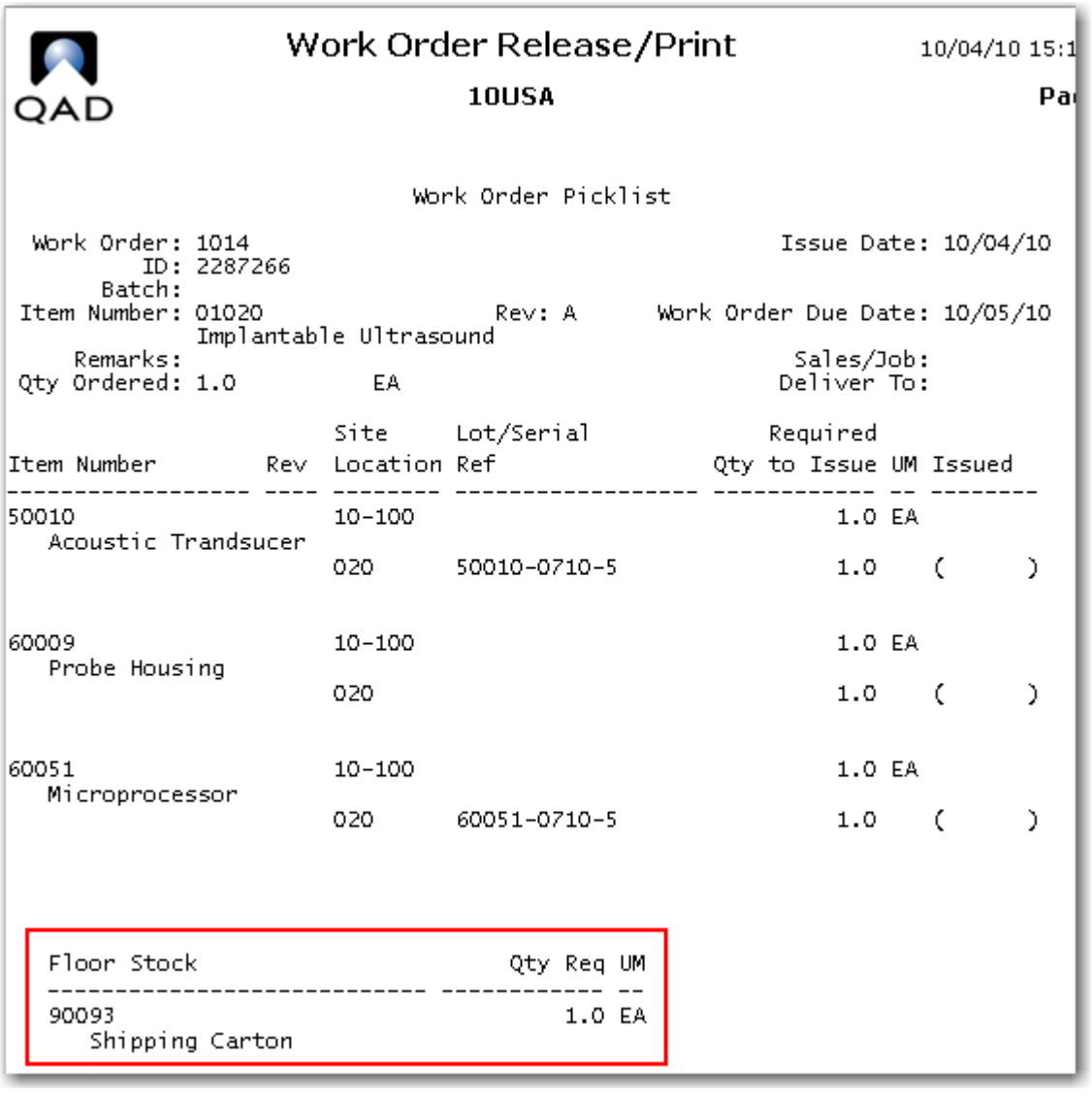
Note If quantity tracking is desired as well as cost tracking, rather than issuing the items by Issues Unplanned (3.7), transfer them to a “floor” location. Periodically cycle count this location and debit the appropriate Floor Stock account at that time (rather than Inventory Discrepancy).

Note One issue that may not be apparent regarding Floor Stock is that floor stock accounts used by the Work Order Accounting Close are associated to the work order, which is determined by the product line of the parent item. If the floor stock component is associated to a different product line, then, if the floor stock accounts vary by product line, you might be crediting a different floor stock account than was debited by the issue transaction. For this reason it is recommended that the floor stock account be the same for all product lines.

Activity 4: Floor Stock Issues

QMI have decided the 90093 shipping carton should be a floor stock item, also referred to as Bulk Items.

1. Use item planning data maintenance 1.4.7, to change the issue policy flag for item 90093 to unchecked. Meaning it is not issued.
2. Create a work order for 1 each of the 01020 at site 10-100. Leave the status flag at F.
3. Use Work Order Component Check 16.5 to see if any items are short. If necessary use receipts unplanned 3.9 to receive any needed components.
4. Use work order release and print (16.6) to release the order and print (view) the pick list. Review the pick list, note that the 90093 is no longer included on the Picklist, but is referenced as Floor Stock.



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Work Order Release/Print 10/04/10 15:1

10USA Pa

Work Order Picklist

Work Order: 1014 Issue Date: 10/04/10
ID: 2287266
Batch:
Item Number: 01020 Rev: A Work Order Due Date: 10/05/10
Implantable Ultrasound
Remarks: Sales/Job:
Qty Ordered: 1.0 EA Deliver To:

Item Number	Rev	Site Location	Lot/Serial Ref	Required Qty to Issue	UM	Issued
50010 Acoustic Trandsucer		10-100		1.0	EA	
		020	50010-0710-5	1.0	(	)
60009 Probe Housing		10-100		1.0	EA	
		020		1.0	(	)
60051 Microprocessor		10-100		1.0	EA	
		020	60051-0710-5	1.0	(	)

Floor Stock	Qty Req	UM
90093 Shipping Carton	1.0	EA

5. Issue the components to the work order as is previous activities, note the 90093 does not appear on the list of items to issue.

6 Use Issues unplanned 3.7 to issue 5 of the 90093 to the production floor. What account is the system using for the debit transaction? The system is debiting 1600 Floor Stock.

7 Receive the work order complete and run the work order accounting close. Review the report this generates.

Review the transaction detail inquiry (3.21.1) for the accounting close. What transactions have been created? There is a credit to floor stock (1600) and a debit to WIP (1550) this has removed the cost of the carton from inventory (1600), and charged it to WIP

8 Change the 90093 back to an issued item, 1.4.7.

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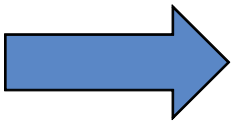
Work Order Topics



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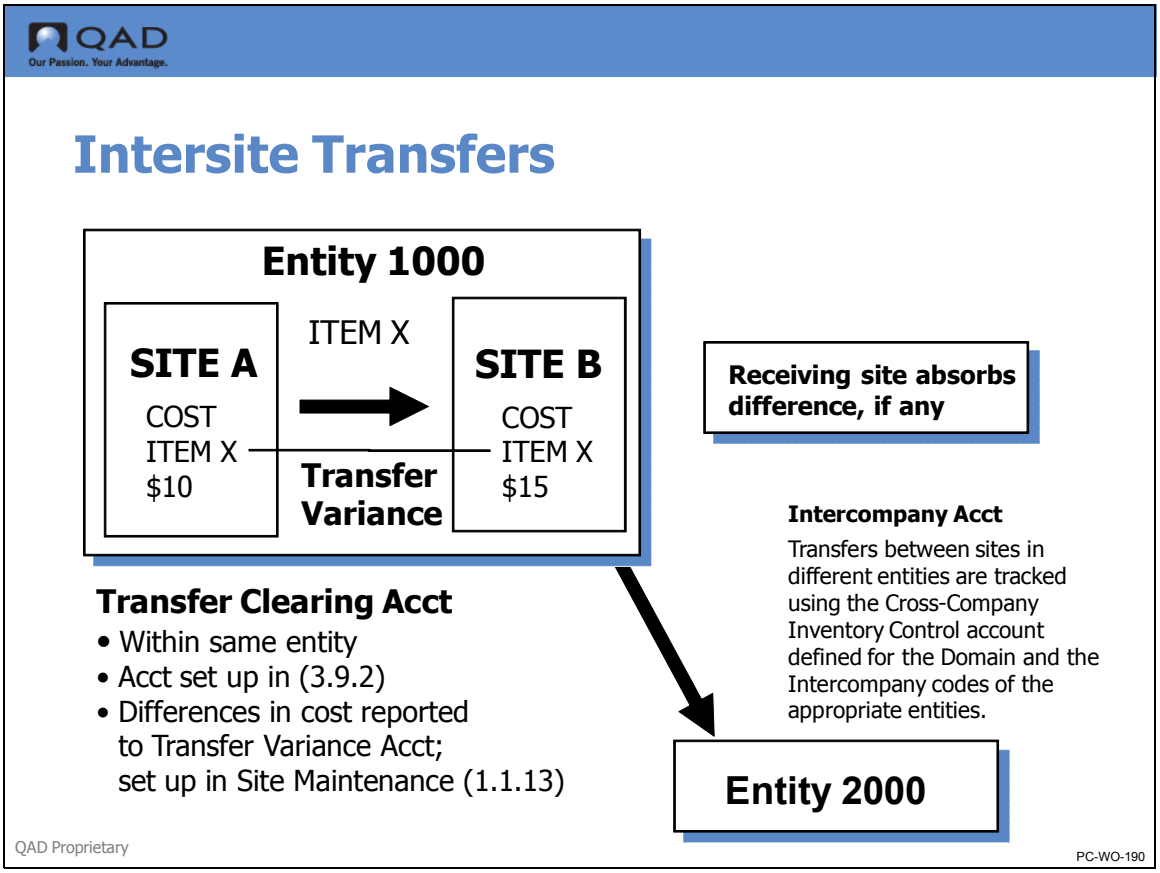
Intersite Transfers and Multi-Site Component Issues Variances



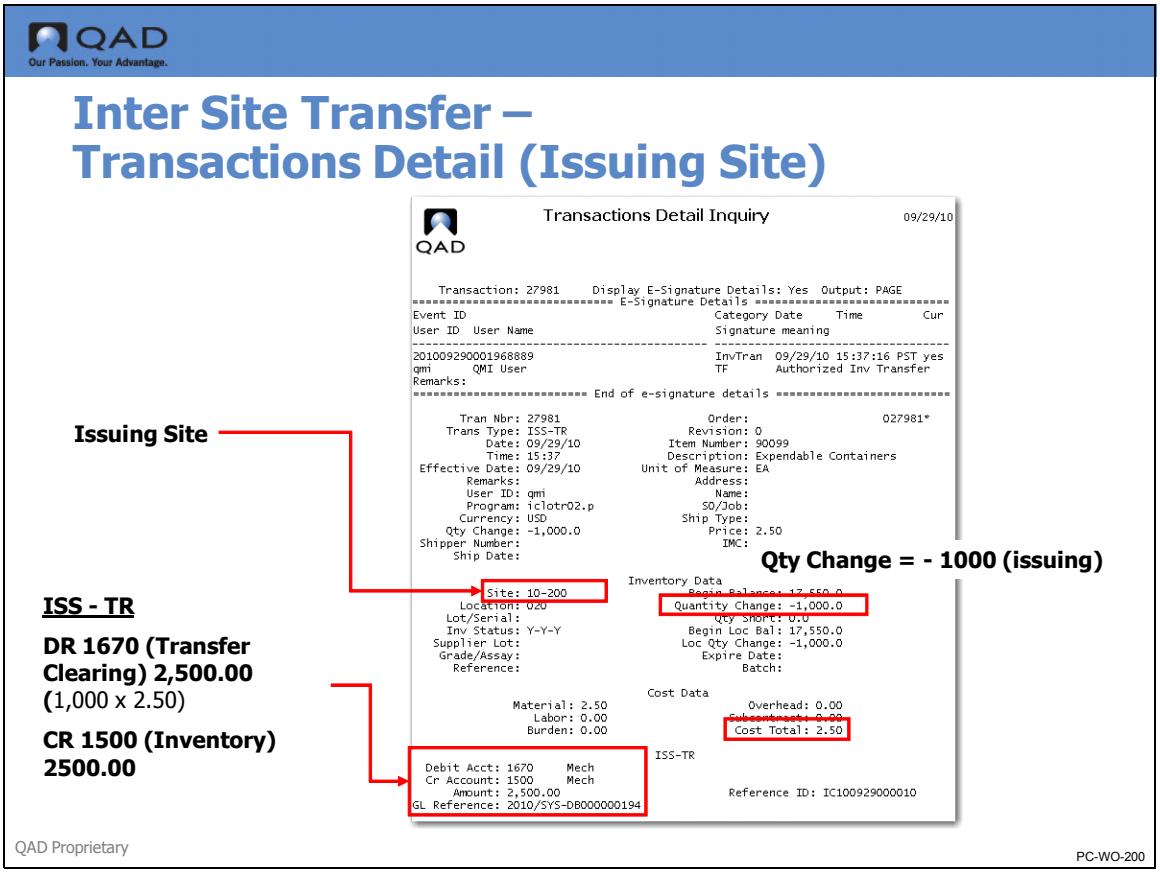
The same item used at different sites may have a different GL cost per site. When inventory is moved between sites, the movement is accounted for either through the Transfer Clearing account (for transfers within the same entity) or through the Intercompany account (for transfers between different entities). Differences in costs at sites in the same entity are posted to the Transfer Variance account for the site using Site Maintenance (1.1.13); differences in costs at sites in different entities are posted to the Material Rate Variance account.

Transfers between sites in different entities are tracked using the Cross-Company Inventory Control account defined for the domain and the intercompany codes of the appropriate entities.

- Set Balanced Entities to Yes using General Ledger Control (25.24). If Balanced Entities is Yes, the system automatically creates intercompany balancing entries

Note On a work order component issue, rather than report differences in cost between two sites to the Transfer Variance account, differences are reported to the work order, crediting the Material Rate Variance account.

Inter Site Transfer With Variance: Example



Example Transfer 1,000 expendable containers item 9099 from site 10-200, where the GL standard cost of the item is 2.50, to site 10-100 where the item has a GL standard cost of 1.00.

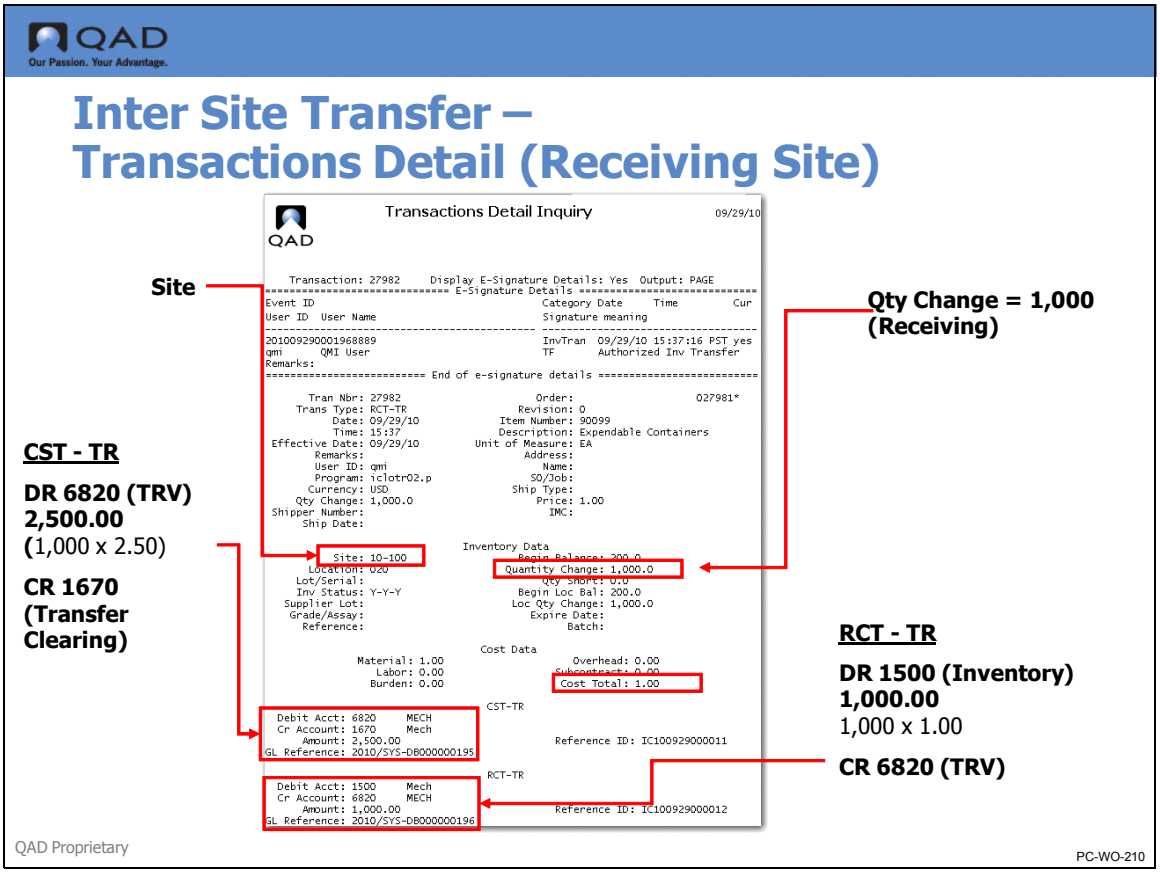
Note Note: Location transfers within a site have no GL effect as there can be only one GL cost at a site.

The Transactions Detail Inquiry (3.21.1), shows the accounts affected by the inventory transfer.

There is only one GL transaction at the Issuing site.

- The components are issued from Inventory (credit Inventory 1500) at the standard GL cost of the 2,500.00, and rather than putting them directly into inventory at the receiving site, the system debits then 2,500.00, to the transfer clearing account (1670).

Inter Site Transfer With Variance: Example, cont.

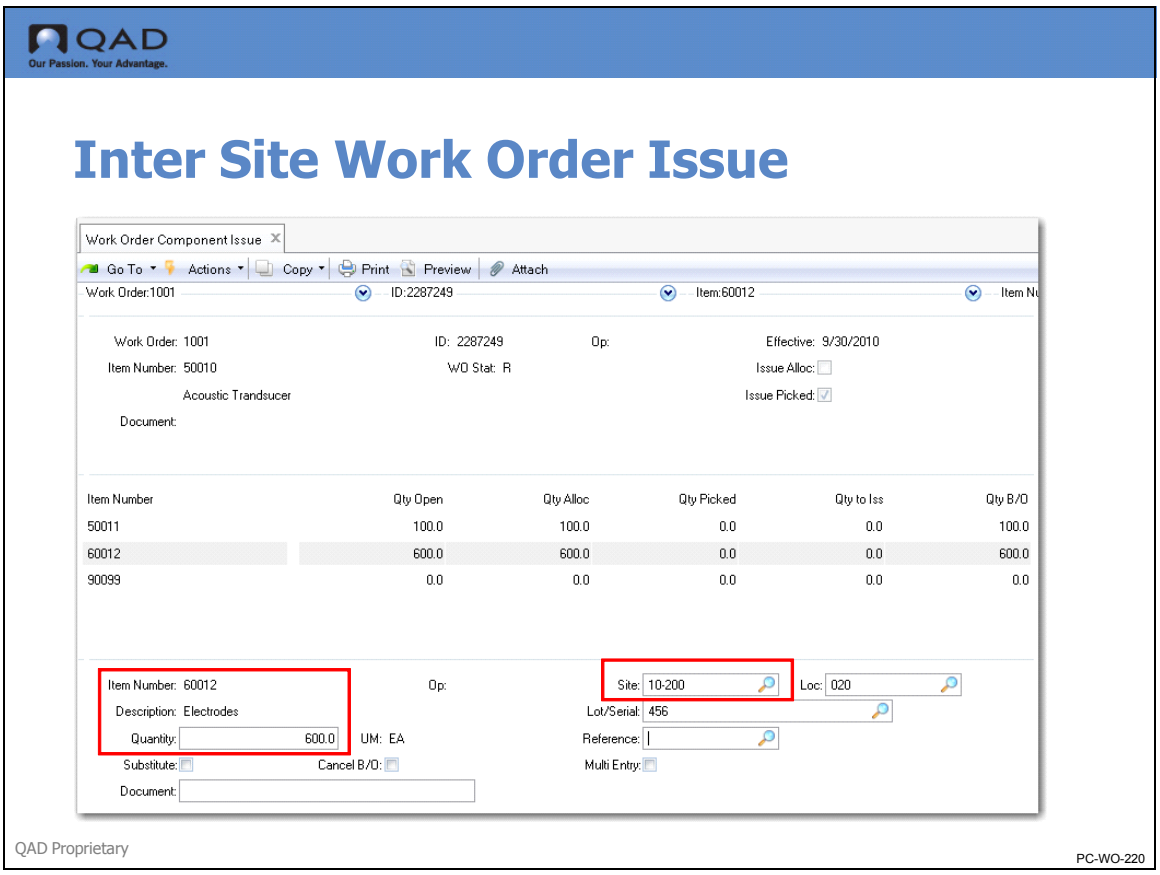


Next, the items are transferred to the books at the receiving site. Because inventory transactions generate “matched pairs” of transactions, the following two transactions will be generated even if costs at the respective sites are identical.

- The intersite transfer is recorded (credit transfer clearing, 1670, 2500.00). Because we do not know yet if the costs are the same, the entire standard GL cost at the sending site is booked to Transfer Variance Account (debit Transfer variance 6820, 2500.00).
- The same items are put into inventory at the receiving site at the standard GL cost at that site. (debit inventory, 1500, 1,000.00) The offsetting entry is to Transfer Variance (credit, 6820, 1,000). When the GL standard costs are different, the difference ends up in this account.
- In this example, the total value of inventory is revalued downwards, thus generating a debit (unfavorable) variance

This transaction points out the disadvantage of moving inventory from a high cost site to a low cost site. Any variance accrues to the receiving site.

Inter Site Work Order Issue



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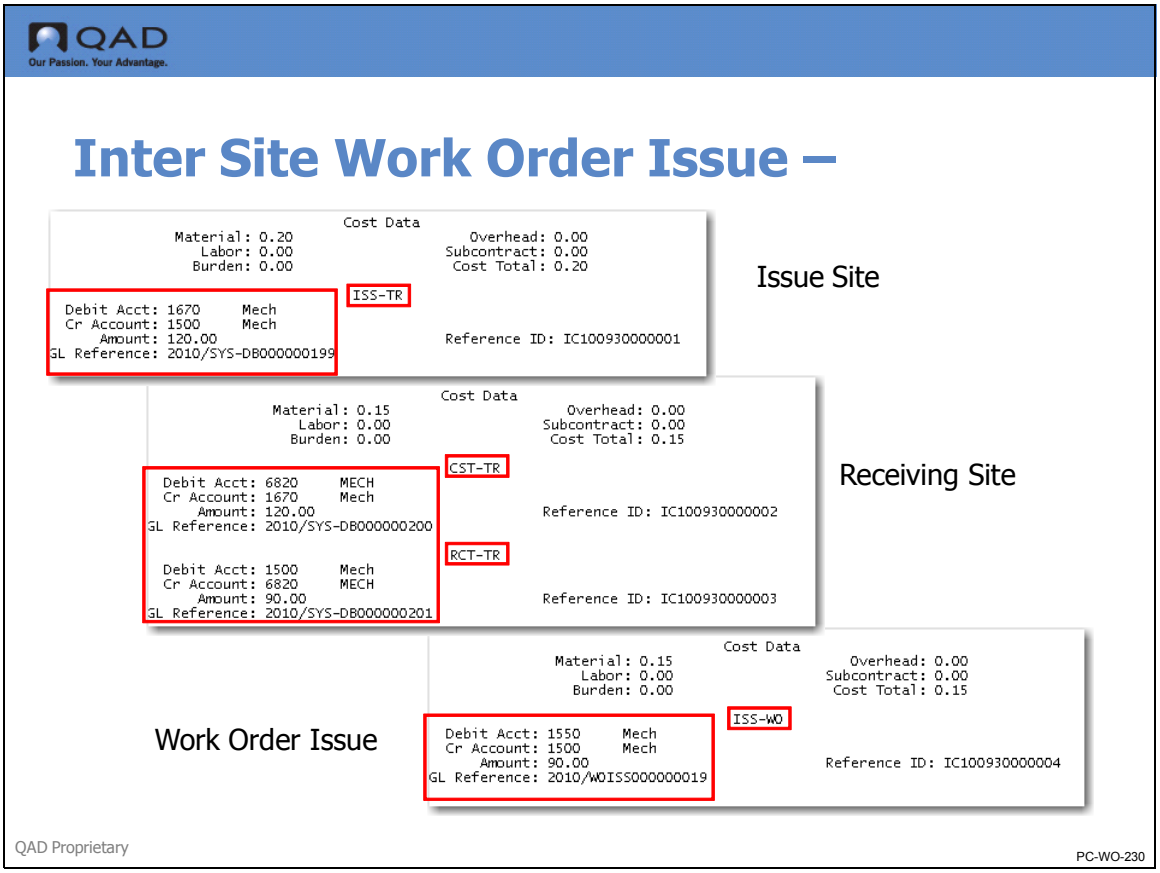
Inter Site Work Order IssueTransfer With Variance: Example, cont.



It is possible to issue items to a work order from a non standard site. In the graphic the work order for 100 of the 50010 acoustic transducer requires 600 of the 60012 electrode. The work order is released at site 10-100 and all components are expected to be issued from site 10-100. However a shortage is discovered and inquiry reveals the required items at site 10-200, which site agrees to supply the electrodes. The site 10-100 cost of the electrode is 0.15 and the cost at site 10-200 is 0.20. In this case the system atomically generates several inventory transactions.

As seen in the previous example the system generates the material issue from the supply site the material receipt at the demand site and then the work order issue. The detail of the transactions are shown on the next graphic.

In the Issue step the 60012's are credited to inventory (1500) at the GL cost of site 10-200, 120.00 and debited to transfer clearing 1670.

Then received at site 10-100 with a debit to transfer variance (5820) of the 120.00 and a credit to transfer clearing (1670). Then a debit to inventory (1500) at the site 10-100 cost of 90.00 and a credit to transfer variance (6820).

The items are then issued to work in process with a debit to WIP (1550) at the site 10-100 GL cost of 90.00 and a credit to inventory (1500).

This leaves a balance of 120-90 = 30 in the transfer variance account which accrues to the receiving site. As it is a positive number it is unfavorable.

Intersite Transfers and Multi-Site Component Issues—GL Effect

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Multi-Site Component Issues – GL Effect

Intersite Transfer - Supply Site — **GL Trans Type**

DR Intercompany (if different entities) ***or*** **IC**
DR Transfer Clearing (if same entity)
CR Inventory

Intersite Transfer - Receiving Site

DR Material Rate Variance (if different entities) **IC**
CR Intercompany *or*
DR Transfer Var (if same entity)
CR Transfer Clearing

If variances exist

DR Inventory
CR Material Rate Variance (if different entities) ***or***
CR Transfer Var (if same entity)

DR Inventory (when no var in cost exists between sites/entities)
CR Intercompany (if different entities) ***or***
CR Transfer Clearing (if same entity)

Issue to Work Order - Receiving Site

DR WIP **IC**
CR Inventory

PC-WO-240

Activity 5: Material Variances

In this activity you will look at the sources of material variances and how they are calculated.

1 Create a work order for 1, 01020 Implantable Ultrasound, at site 10-100, set the status to R.

2 Change the GL standard cost of the 6009 Probe Housing from 30.00 to 25.00.

3 Issue the components. For item 90093, Shipping Carton issue 2 instead of 1.

4 Review the ISS-WO transactions for this order. Why is there no material usage variance for the 90093? Material usage variance is not calculated until work order accounting close.

5 Review the work order cost report. Are there any variances reported? Why? There is an accrued material rate variance of -5.00 for the 60009 because the standard was changed after the work order bill of material was created at work order release.

6 Receive the work order. Run work order accounting close, and review the work order cost report. Remember to check Close on your work order receipt. Accounting close will only run against Closed work orders. Can you explain the variances?

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Work Order Cost Report 10/01/1

10USA

Work Order: 1001 ID: 2287246 Batch:
Remarks:
Item Number: 01020 Sales/Job: Qty Ordered: 1.0 Order Date: 10/01/10 STD
Implantable Ultrasound Quantity Completed: 1.0 Release Date: 10/01/10
WO Stat: C Supplier: Qty Rejected: 0.0 Due Date: 10/04/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50010		1.0	103.00	0.00	103.00	0.00	0.00	0.00	103.00
60009		1.0	30.00	-5.00	25.00	-5.00	0.00	0.00	30.00
60051		1.0	300.00	0.00	300.00	0.00	0.00	0.00	300.00
90093		2.0	1.00	1.00	2.00	0.00	1.00	0.00	1.00
Material Total:			434.00	-4.00	430.00	-5.00	1.00	0.00	434.00
Operation:	10	1.0	75.00	0.00	75.00	0.00	0.00	0.00	75.00
Operation:	20	1.0	75.00	0.00	75.00	0.00	0.00	0.00	75.00
Operation:	30	1.0	25.00	0.00	25.00	0.00	0.00	0.00	25.00
Labor Total:			175.00	0.00	175.00	0.00	0.00	0.00	175.00
Operation:	10	1.0	10.50	0.00	10.50	0.00	0.00	0.00	10.50
Operation:	20	1.0	10.50	0.00	10.50	0.00	0.00	0.00	10.50
Operation:	30	1.0	3.50	0.00	3.50	0.00	0.00	0.00	3.50
Burden Total:			24.50	0.00	24.50	0.00	0.00	0.00	24.50
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00
WO Subtotal:			633.50	-4.00	629.50	-5.00	1.00	0.00	633.50
- Std Cost Rcvd:									-633.50
- Scrapped:									0.00
- Mthd Chg Var:									0.00
Balance:									0.00

Rate Var. = (actual cost - std. cost) x qty issued(25.00 - 30.00) x 1 = -5.00

Usage Var. = [(act. qty.-.std qty + qty. reject) x qty. per.] x GL cost= x (2-1) x 1.00 = 1.00

The rate variance was created at ISS-WO, the usage variance at WO-CLOSE.

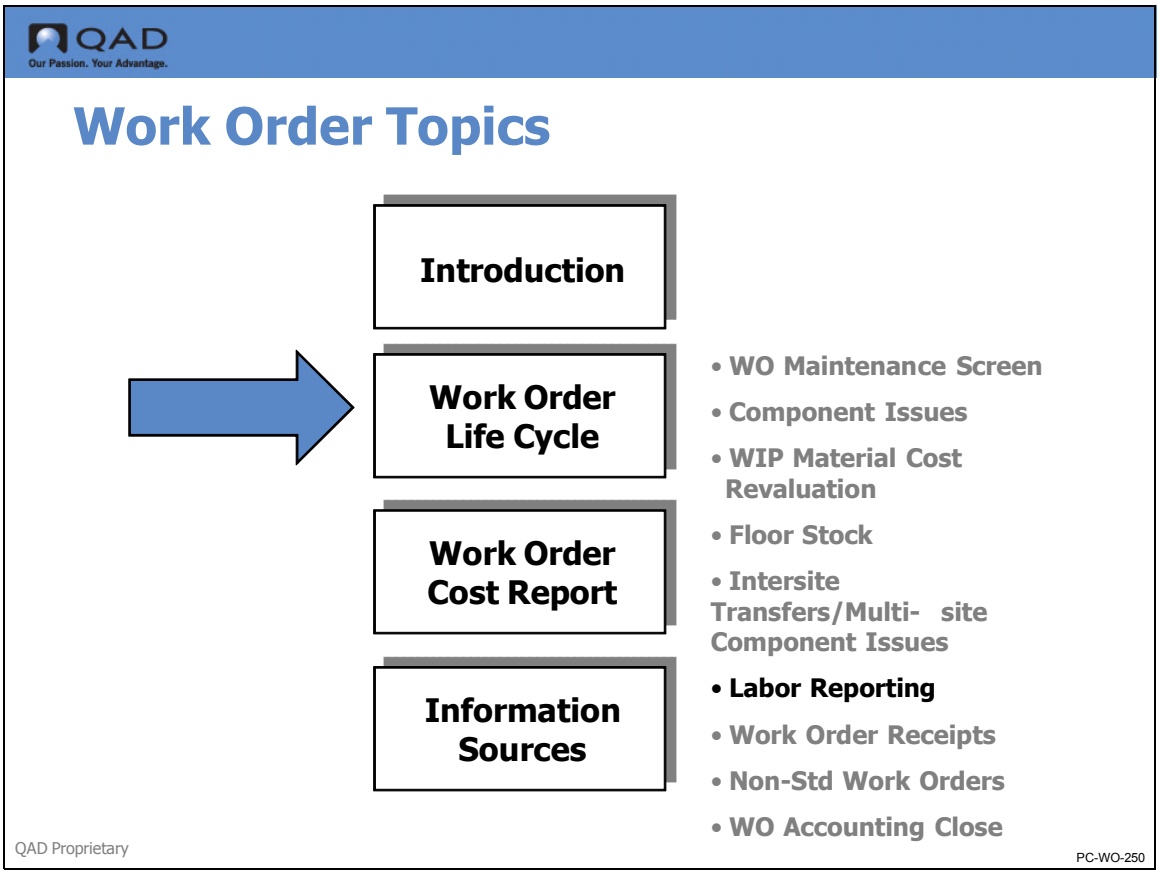
7 Change the GL cost of the 60009 back to 30.00, verify the current cost is still 30.00.

Activity 6: Material Variances Multi-site Issue

Another site in the company has gotten a discount by buying Probe Housings, 60009 in large quantity. They have agreed to let us use some.

1. Use 3.9 issues unplanned to receive 50 of the 60009 Probe Housings into site 10-200 location 020. You will need to change the default site code.
2. Use item site cost maintenance 1.4.18 to set both the GL and current cost of the 60009 at site 10-200 to 25.00.
3. Create and release an order for 1 of the 01020 at site 10-100. Issue the components changing the site from which the 60009 is issued to 10-200.
4. Receive the work order and close it, and run work order accounting close. Review the work order cost report. What does it report? The work order cost report indicates that everything happened exactly at standard. This is because all transactions were booked at site 10-100 GL costs.

   However if your look at transaction detail 3.21.1 you will find on the RCT-TR (receipt from transfer) a debit to transfer variance (6820) of 25.00 and a credit of 30.00, leaving a 5.00 credit balance in transfer variance (-5.00) or favorable. Remember any variance on a transfer accrues to the receiving site. The logic here is that from the viewpoint of site 10-100 they received an item worth 30.00 for only 25.00. It is important to keep in mind these are just inventory transactions and have nothing to do with currency changing hands.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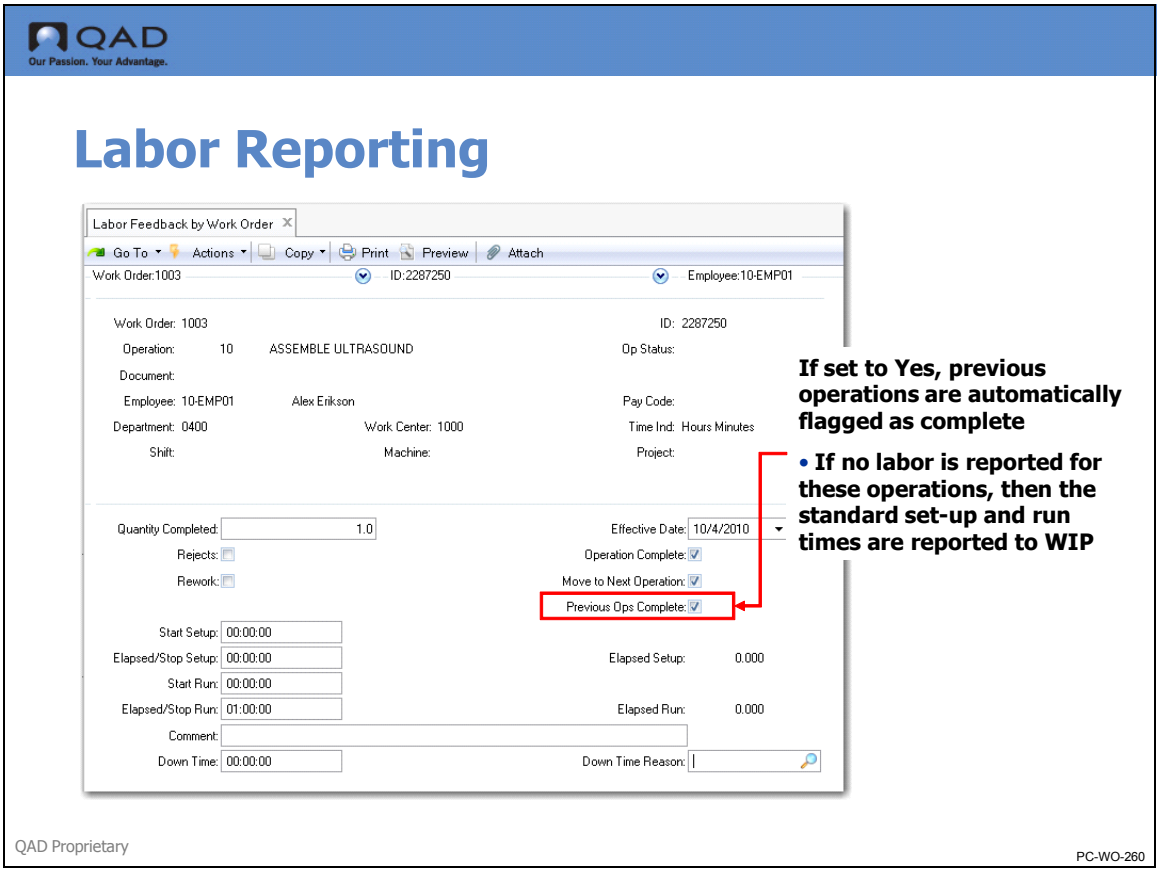
• WO Accounting Close
QAD Proprietary
PC-WO-250

Labor Reporting



There are three ways to handle labor accrual:

1 Report actual setup and run times

2 Accept standard setup and report actual run time

3 Accept standard setup and run times

This section examines the first scenario—the effects of reporting actual setup and run times. Later, by completing the activities that are associated with this section, you will see both the effects of accepting standard setup and run times, and reporting actual setup and run times.

Reporting Actual Setup and Run Times

Labor feedback transactions report the quantity completed and the actual labor time spent on a particular work order and operation.

- All labor feedback transactions must specify a work order, operation, employee, and work center
- Each can specify set-up, run, and down time

  Down time (or non-productive labor) is not related to a work order and has no effect on WIP or variances. It is posted as a miscellaneous Cost of Production, which attracts burden absorption.

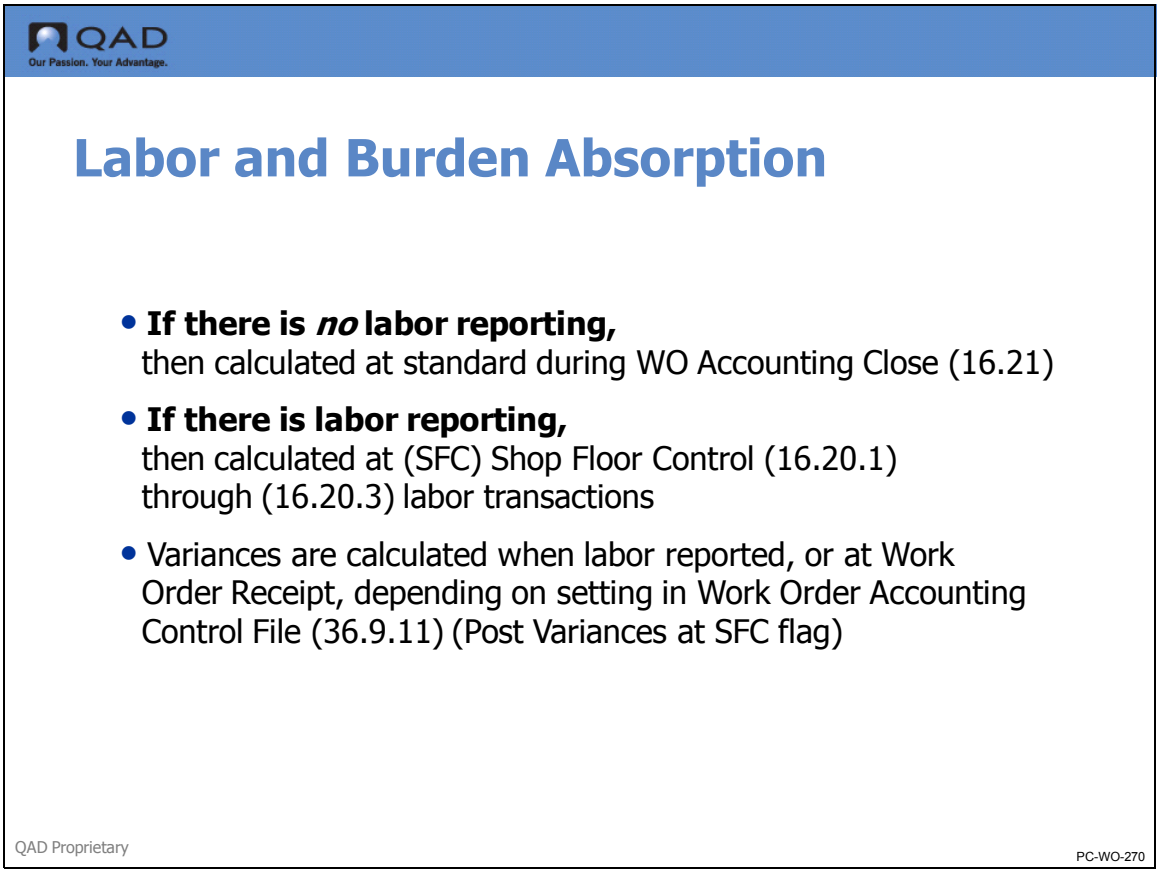
In Labor Feedback Work Order (16.20.1), Labor Feedback Employee (16.20.2), Labor Feedback Work Center (16.20.3), and Operation Complete Transaction (16.20.5), you can flag previous operations as complete (see figure on preceding page).

Example You have five operation steps, but only report operations three and five. When you report these operations, the previous operations are automatically flagged as complete. If no labor has been reported for these operations, the standard set-up and run times are posted to WIP.

Standard run time is determined based on the quantity completed at the reported operation (that is, if you report 100 complete at operation three, the system assumes that 100 units went through operations one and two).

Variances occur whenever actual rate or time does not match the standard.

Labor and Burden Absorption



The timing for labor and burden absorption is based on whether you report labor or not.

No Labor Reporting

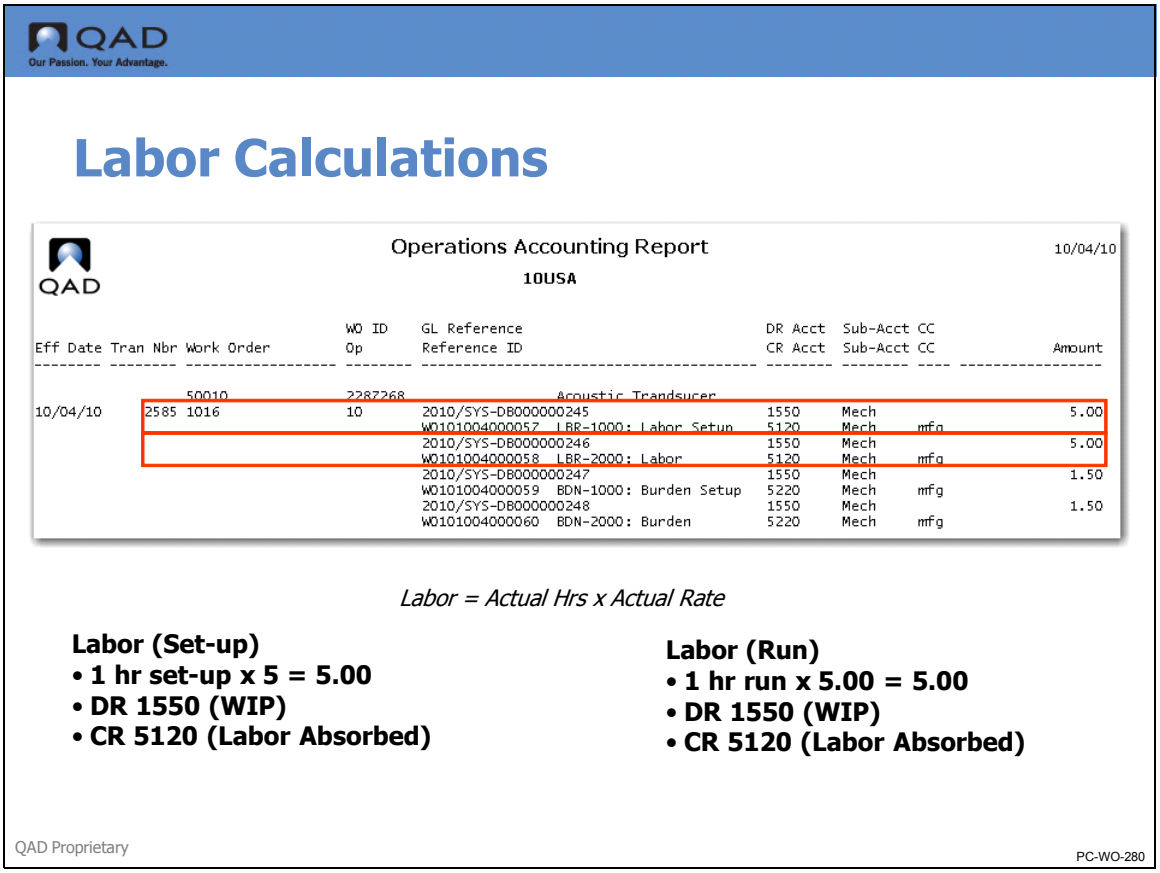
If you do not report labor, then no absorption will occur until the work order is closed and the Work Order Accounting Close (16.21), is performed.

With Labor Reporting

If you do report labor, then absorption will occur at the time labor is reported for each operation. This is independent of the amount received on the work order.

If you have the Post Variances at SFC flag set to Yes on the work order, at the same time the absorption occurs, any variances calculated will be posted. Otherwise, the variances are not calculated and posted until Work Order Receipt (16.11) or Work Order Receipt Backflush (16.12).

Labor Calculations



Set-up and run times are treated the same, but if reported at the same time, the system creates two sets of entries—one for set-up and one for run time.

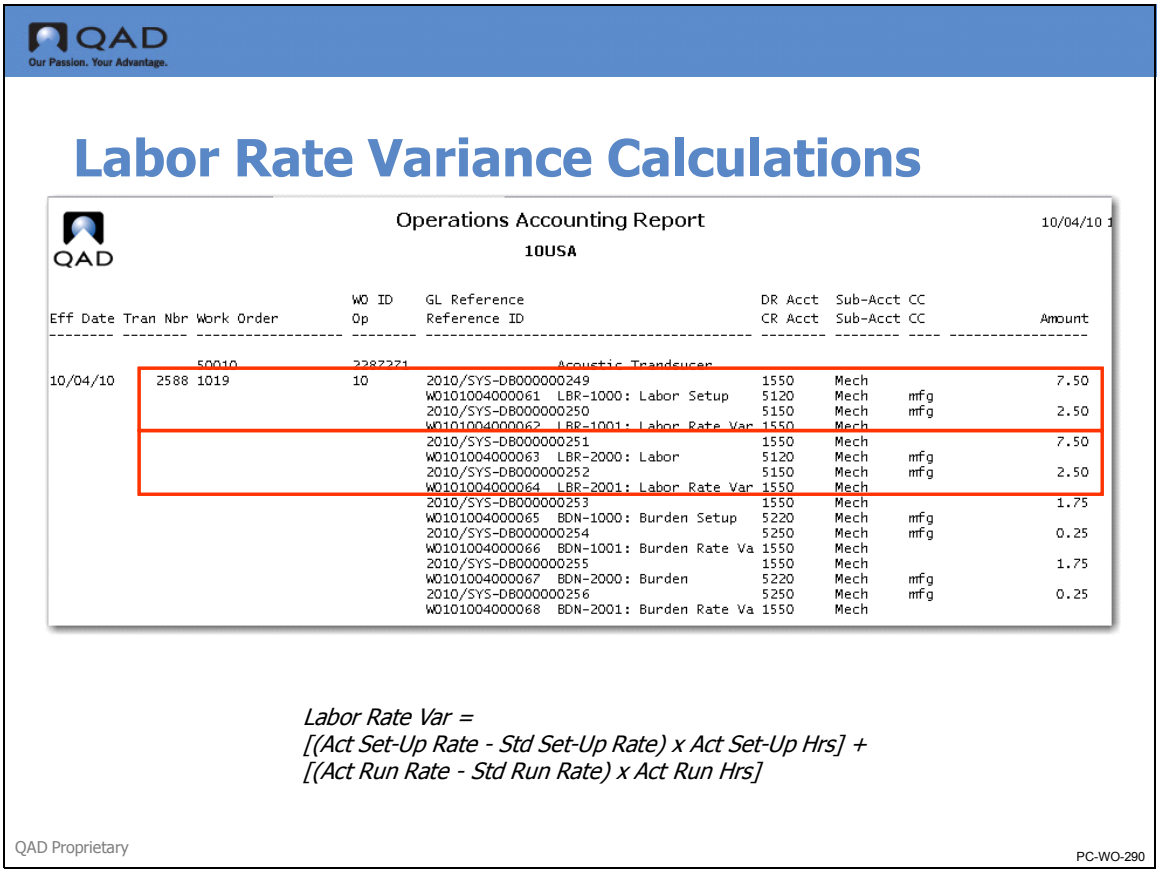
The actual amount of labor is posted to WIP (debit) and Labor Absorption (credit), and is calculated as:

Actual Hrs x Actual Rate

> *If employee pay rates are not loaded into the system, the standard rate at the work center where work was reported is used.*

Example An employee spends 1 hour set-up time and 1 hour run time at a pay rate of $5.00 per hour. The results and calculations are shown in the figure above. Labor Burden transactions at 10% are also shown.

Labor Rate Variance



Labor Rate Variances are posted if the employee pay rate does not match the standard pay rate at the work center where the work was reported.

Calculations

Labor Rate Variance is calculated at the time shop floor labor feedback is reported (only if actual employee pay rates are entered) as:

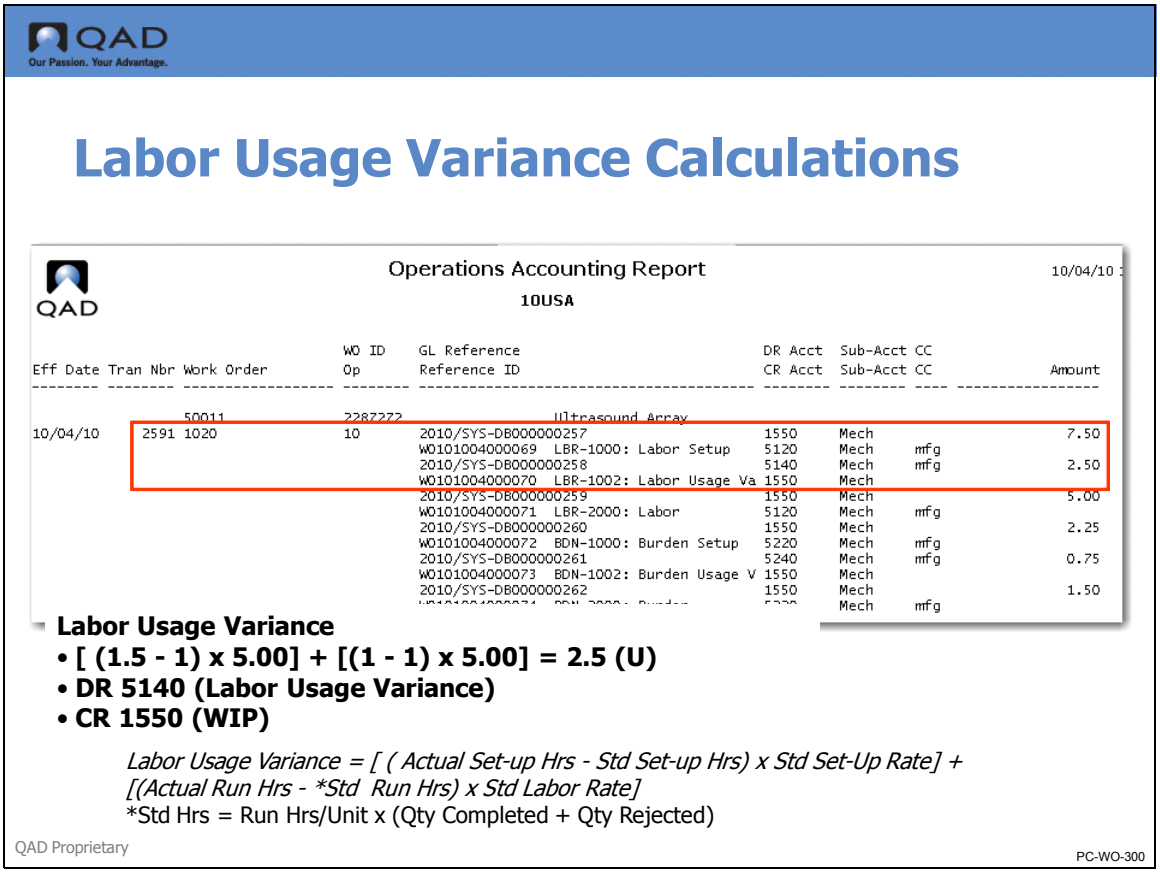
[(Act Set-Up Rate - Std Set-Up Rate) x Act Set-Up Hrs] + [(Act Run Rate - Std Run Rate) x Act Run Hrs]

- Actual Pay Rate MAintenance is updated using 14.13.21.
- When variance posting occurs, a positive (unfavorable) or negative (favorable) variance is debited to the Labor Rate Variance account and credited to WIP

  The Labor Rate Variance is normally posted at the same time that labor is posted. However, if the [N]o flag is set in the Post Variances at SFC field in Work Order Accounting control (36.9.11) or Work Order Maintenance (16.1), variance posting will be delayed until Work Order Receipt (16.11) or Work Order Receipt Backflush(16.12).

Example Because the employee's pay rate of 7.50 per hour is different than the standard pay rate of 5.00 per hour, there is a labor rate variance, as shown in the figure above. The corresponding burden calculates are also shown.

Labor Usage Variance



Labor Usage Variances are posted when actual set-up and/or run time differ from the time it should have taken to set up and/or make the number of units reported as complete (referred to as earned hours).

Calculations

Labor Usage Variance is calculated at the time shop floor feedback is reported as:

[(Act Set-Up Hrs - Std Set-Up Hrs) x Std Set-Up Rate] + [(Act Run Hrs - Std Run Hrs) x Std Run Rate]

where:

Std Run Hrs = Run Hrs/Unit x (Qty Completed + Qty Rejected)

- When variance reporting occurs, a positive (unfavorable) or negative (favorable) variance is debited to the Labor Usage Variance account and credited to WIP

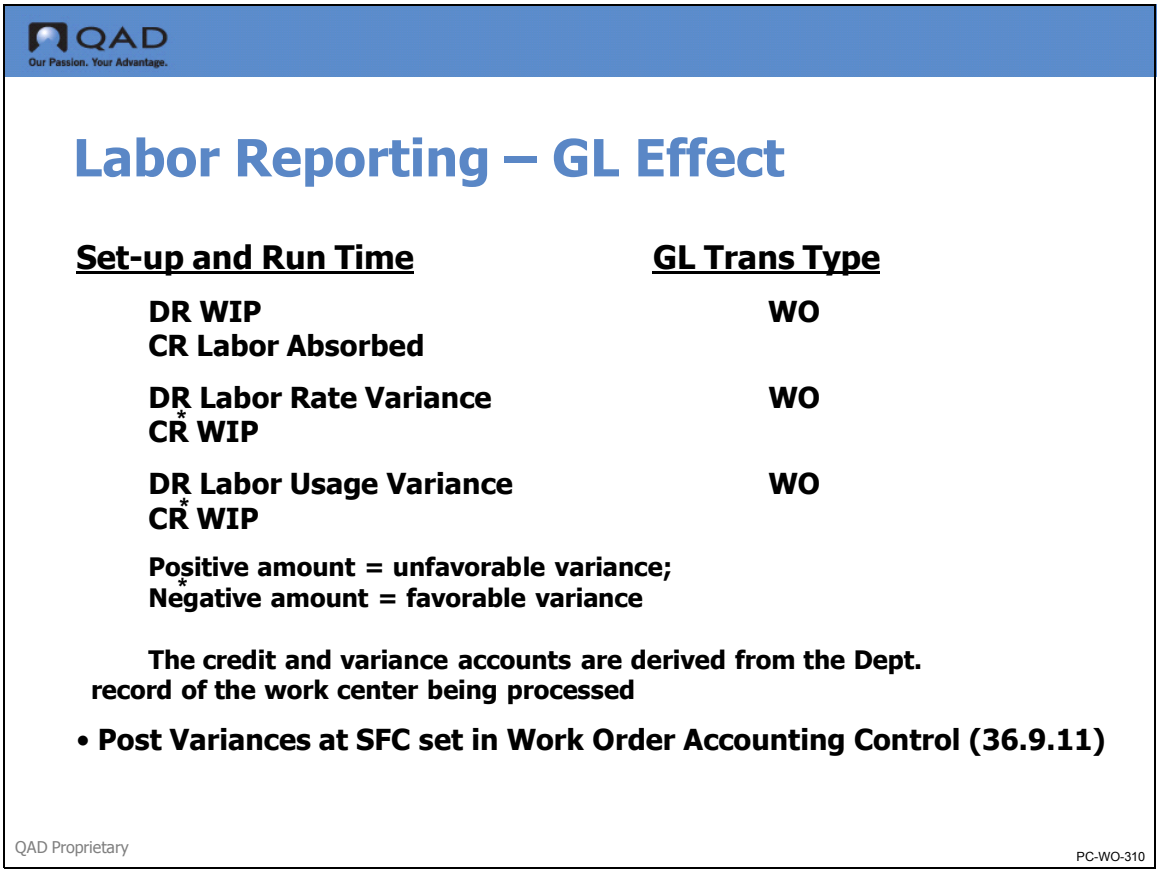
  The Labor Usage Variance is normally posted at the same time that labor is posted. However, if the [N]o flag is set in the Post Variances at SFC field in Work Order Accounting Control (36.9.11), or Work Order Maintenance (16.1), variance posting will be delayed until Work Order Receipt (16.11) or Work Order Receipt Backflush (16.12).

Example The employee earns the standard rate but has reported 1.5 hours for the setup operation. The standard is one hour so a labor usage variance is created, as shown above. The runtime transaction is reported at standard, so no variance is posted.

Note For operations that span reporting shifts (or days), hold off reporting variances until work order receipt. Set Post Variances at SFC to No in Work Order Maintenance (16.1), or Work Order Accounting Control File (36.9.11).

- When labor is reported with no completed units, no labor was earned. The total amount not attributable to set-up is flagged as unfavorable variance. The set-up portion only posts the true variance amount and is unaffected by units. The unfavorable variance is offset later by a favorable variance when completed items are reported. In an operation that takes 12 hours to finish, shift one reports 8 hours and zero complete. All 8 hours is unfavorable variance. Shift two works 4 hours and completes 100 units. It should have taken 12 hours, so shift 2 shows an 8 hours favorable variance.

Labor Reporting—GL Effect The default general ledger entry:



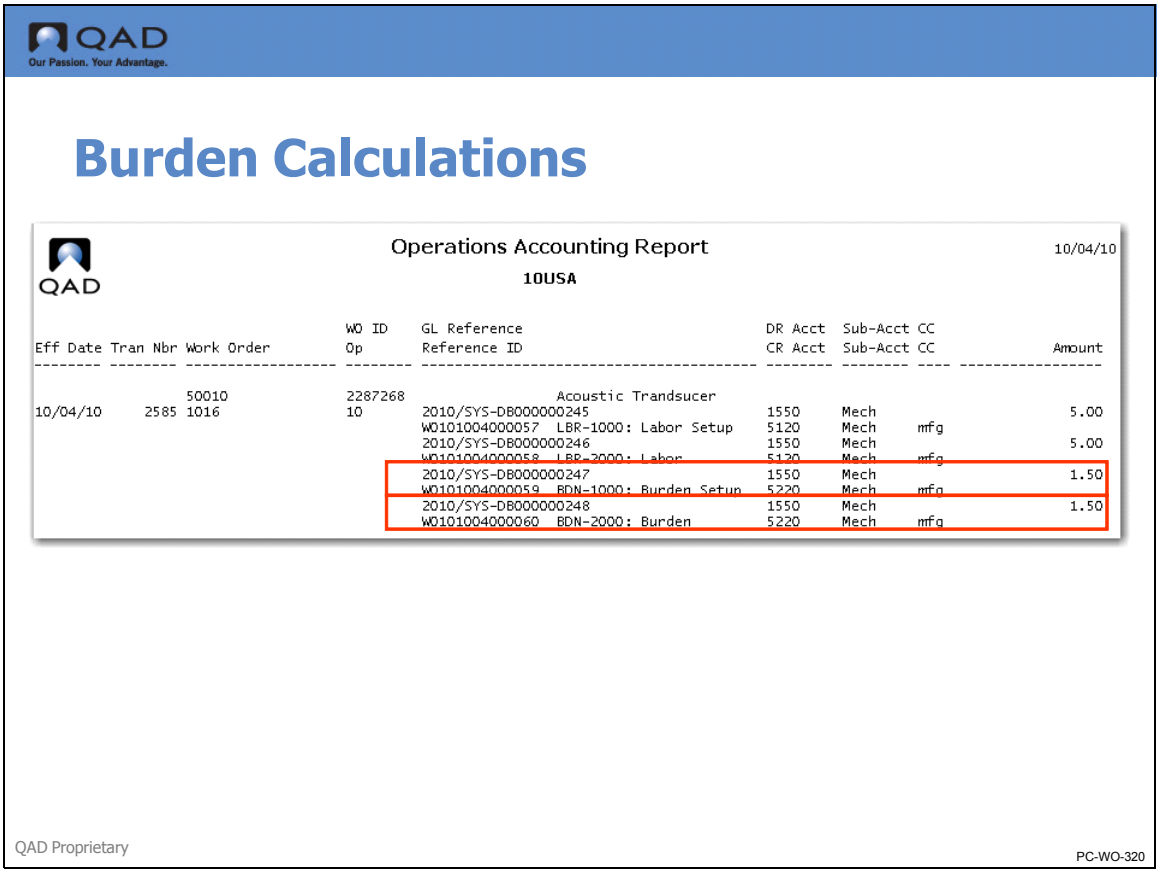
- Debits WIP
- Credits Labor Absorbed

  The credit account is derived from the Department record of the work center being processed

Upon shop floor reporting, labor usage and rate variances are calculated (see following note). If the variance amount is positive, then it is an unfavorable variance; if the amount is negative, then it is a favorable variance. The variance accounts are derived from the Department record (Department Maintenance (14.1)).

Note The Labor Usage and Rate variances are normally posted at the same time that labor is posted. However, if the [N]o flag is set in the Post Variances at SFC field in Work Order Control (16.24), or Work Order Maintenance (16.1), variance posting will be delayed until Work Order Receipt (16.11) or Work Order Receipt Backflush (16.12).

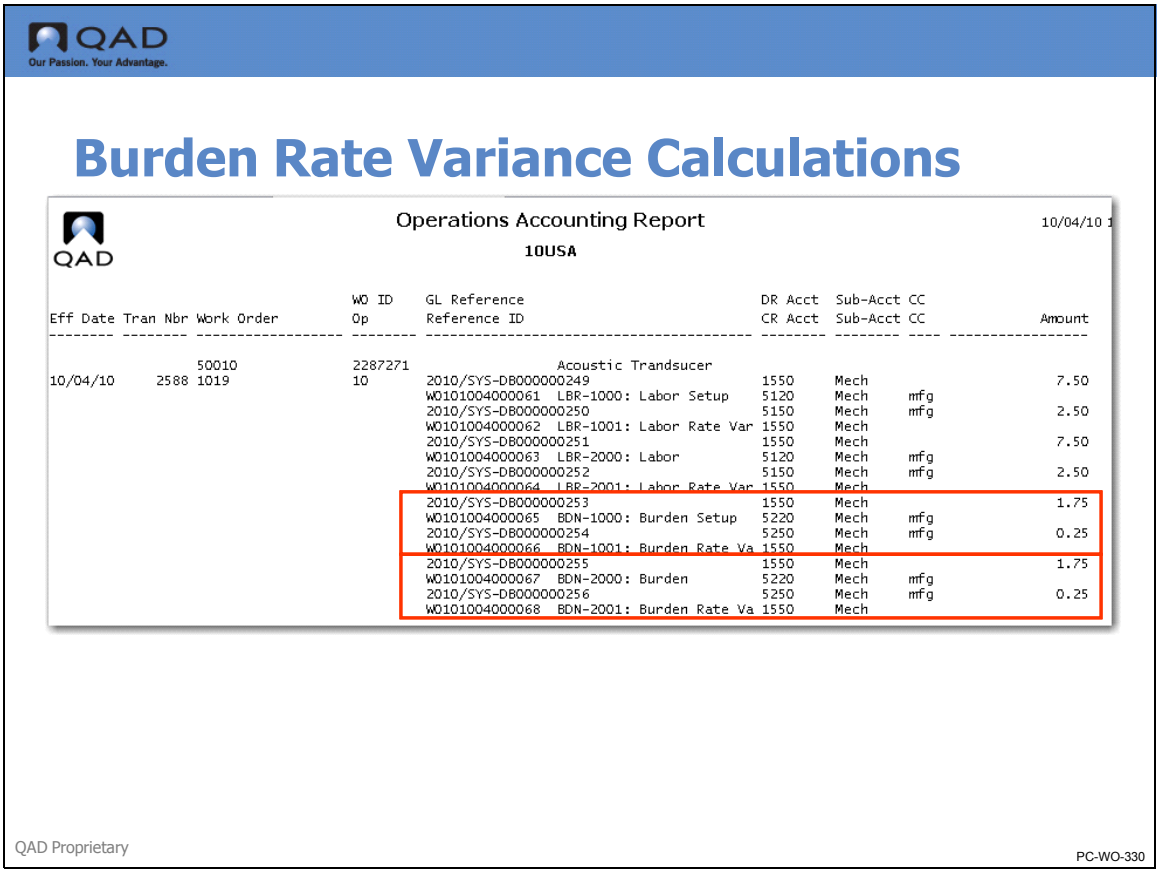
Burden Calculations



Burden is the variable overhead associated with production operations, and the Burden account is used to accumulate accrued burden for a department. Each operation may have labor burden and/or machine burden depending on how variable overhead is applied. Machine burden is applied as a machine hour rate; however, labor burden may be applied either as a labor burden rate and/or as a percentage of direct labor cost.

Example Continuing with the example given earlier, the burden associated with the employee's one hour of set-up and one hour of run time is shown in the figure above. (Labor Burden is 10% of the Labor Rate. The machine burden rate for this work center is 1.00/hour, or 1.50 for the setup and the run time. Note that the setup burden and run burden are kept separate, as in many cases the rates will be very different.

Burden Rate Variance



Burden Rate Variances are posted only if burden is calculated as a percentage of labor cost and the employee pay rate is different than the work center standard.

Calculations

- It is calculated at the time shop floor feedback is reported as:

  [(Act Set-Up Bdn - Std Set-Up Bdn) x Act Set-Up Hrs] + [(Act Run Bdn - Std Run Bdn) x Act Run Hrs]

where:

Act Set-Up Bdn = (Act Set-Up Rate x Lbr Bdn%) + Lbr Bdn Rate + (Mach Bdn Rate x Mach/Op)

Std Set-Up Bdn = (Std Set-Up Rate x Lbr Bdn%) + Lbr Bdn Rate + (Mach Bdn Rate x Mach/Op)

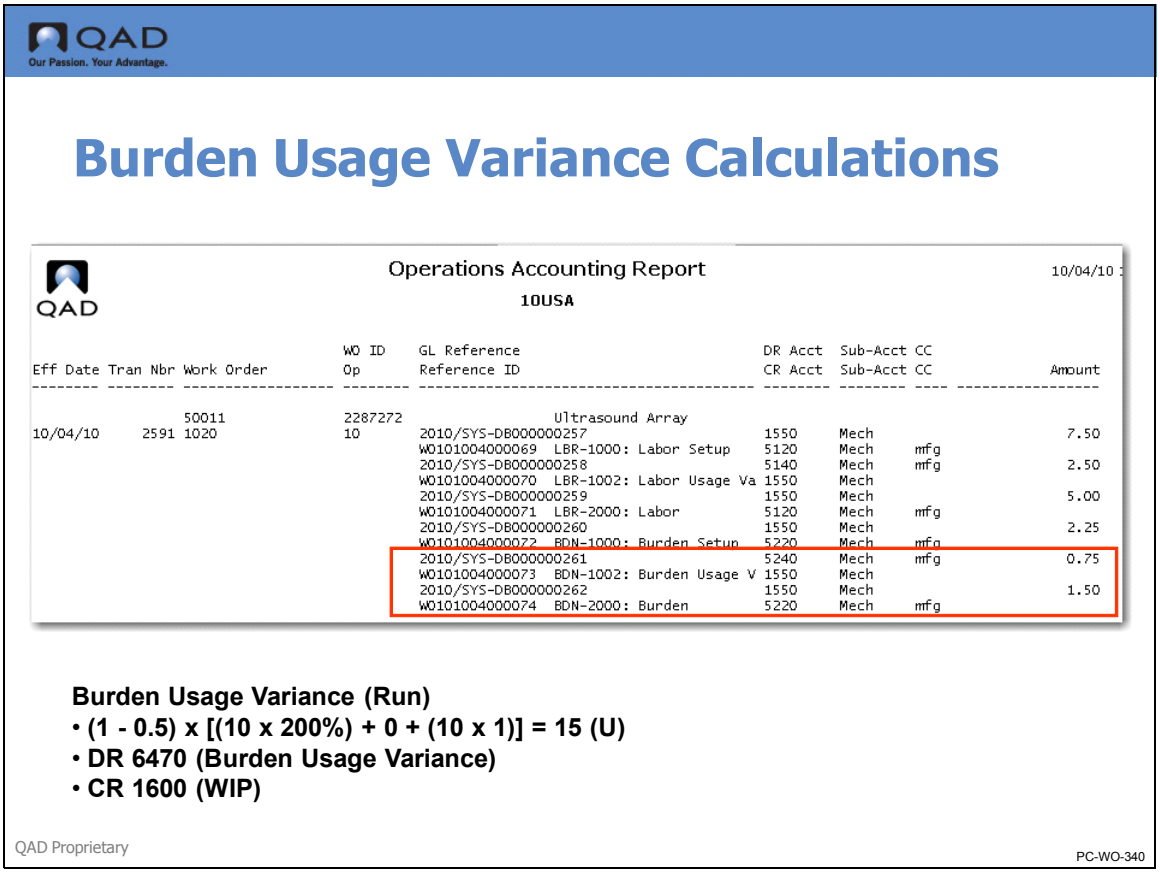
Act Run Bdn = (Act Run Rate x Lbr Bdn%) + Lbr Bdn Rate + Mach Bdn Rate

Std Run Bdn = (Std Run Rate x Lbr Bdn %) + Lbr Bdn Rate + Mach Bdn Rate

Note The Burden Rate Variance is normally posted at the same time that labor is posted. However, if the [N]o flag is set in the Post Variances at SFC field in Work Order Accounting Control (36.9.11), or Work Order Maintenance (16.1), variance posting will be delayed until Work Order Receipt (16.11) or Work Order Receipt Backflush (16.12).

Example Because the employee's pay rate of 7.50 per hour is different than the work center standard of 5.00 per hour, a burden rate variance is created, as shown in the figure above.

Burden Usage Variance



Burden usage variance results if the actual hours do not match the standard hours required on the routing. The extra burden on those hours is a burden usage variance. This variance applies to burden calculated by any of the three allocation methods—burden rate, burden percentage, or machine hours.

Calculations

Burden Usage Variance is calculated at the time shop floor feedback is reported as:

[(Act Set-Up Hrs - Std Set-Up Hrs) x Set-Up Bdn] + [(Act Run Hrs - Std Run Hrs) x Run Bdn]

where:

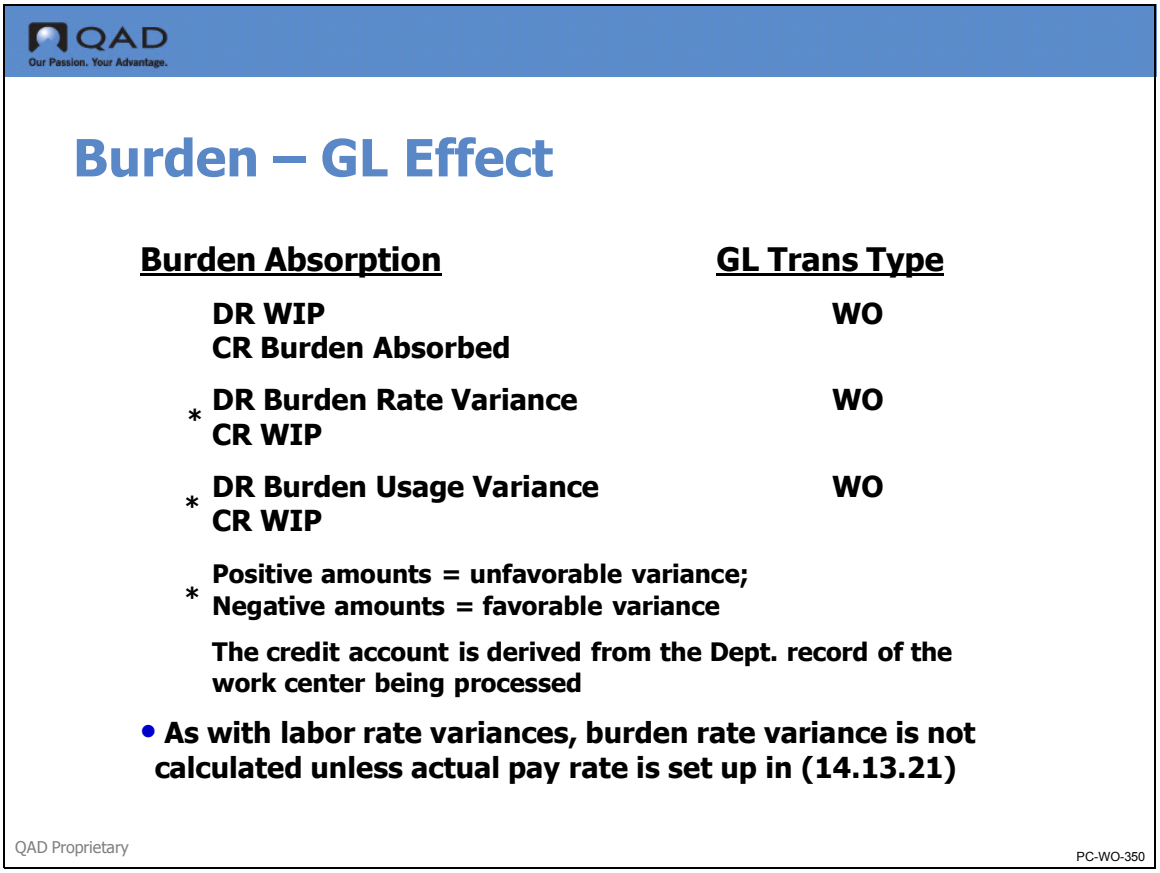
Set-Up Bdn = (Std Set-Up Rate x Lbr Bdn%) + Lbr Bdn Rate + (Mach Bdn Rate x Mach/Op)

Run Bdn = (Std Run Rate x Lbr Bdn%) + Lbr Bdn Rate + Mach Bdn Rate

- The Burden Usage Variance is normally posted at the same time that labor is posted. However, if the [N]o flag is set in the Post Variances at SFC field in Work Order Control File (16.24), or Work Order Maintenance (16.1), variance posting will be delayed until Work Order Receipt (16.11) or Work Order Receipt Backflush (16.12).

Example From the earlier example because the employee's actual run time (1.5 hour) does not match standard run time (1.0 hour), a burden usage variance is created, as shown in figure above as well as the labor usage variance.Anytime there is a labor variance there will be a burden variance.

Burden—GL Effect



The default general ledger entry:

- Debits WIP
- Credits Burden Absorbed

  The credit account is derived from the Department record of the work center being processed

Upon shop floor reporting, burden usage and rate variances are calculated (see following note). If the variance amount is positive, then it is an unfavorable variance; if the amount is negative, then it is a favorable variance.

Note The Burden Usage and Rate variances are normally posted at the same time that labor is posted. However, if the [N]o flag is set in the Post Variances at SFC field in Work Order Control (16.24), or Work Order Maintenance (16.1), variance posting will be delayed until Work Order Receipt (16.11) or Work Receipt Backflush (16.12).

Labor Rate Variances—Summary

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Labor Rate Variances

Manufacturing-Related Variances

Variance	When Calculated	Cause
Labor Rate	SFC feedback (16.20.1), (16.20.2), (16.20.3) • Can be deferred until WO Receipt (16.11)/(16.12) based on WO Accounting Control setting • Labor and burden rate variances calculated only if actual pay rates have been set up in (14.13.21)	Difference between actual employee pay rate and WC pay rate standard • View employee pay rate in Actual Pay Rate Maint (14.13.21) or Employee Maint (29.15.1); view WC rate in WC Maint (14.5)
Formula	*[(Act Set-Up Rate - Std Set-Up Rate) x Act Set-Up Hrs] + [(Act Run Rate - Std Run Rate) x Act Run Hrs]*	
View in Report	*Work Order Cost Report (16.3.4)*	

QAD Proprietary

PC-WO-360

Labor Burden Rate Variances—Summary

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Labor Burden Rate Variances

Manufacturing-Related Variances

Variance	When Calculated	Cause
Labor Burden Rate	SFC feedback (16.20.1), (16.20.2), (16.20.3) • Can be deferred until WO Receipt (16.11)/(16.12), based on WO Accounting Control setting	Equivalent to labor rate variance with burden rates factored in; calculated if burden rate has also been calculated as a % of lbr cost

Formula

[(Act Set-Up Bdn - Std Set-Up Bdn) x Act Set-Up Hrs] +
[(Act Run Bdn - Std Run Bdn) x Act Run Hrs]

Where:

Act Set-Up Bdn = (Act Set-Up Rate x Lbr Bdn%) +
Lbr Bdn Rate + (Mach Bdn Rate x Mach/Op)
Std Set-Up Bdn = (Std Set-Up Rate x Lbr Bdn%) +
Lbr Bdn Rate + (Mach Bdn Rate x Mach/Op)
Act Run Bdn = (Act Run Rate x Lbr Bdn%) +
Lbr Bdn Rate + Mach Bdn Rate
Std Run Bdn = (Std Run Rate x Lbr Bdn%) +
Lbr Bdn Rate + Mach Bdn

View in Report *Work Order Cost Report (16.3.4)*

PC-WO-370

Labor Usage Variances—Summary

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Labor Usage Variances

Manufacturing-Related Variances

Variance	When Calculated	Cause
Labor Usage	SFC feedback (16.20.1, 16.20.2, 16.20.3 Can be deferred until WO Receipt (16.11)/(16.12), based on WO Accounting Control setting	Difference between actual lbr hrs reported and the std time that should have been required to complete the quantity received • View both actual and earned hours in WO Routing Maintenance (16.13.13)
Formula	*[(Act Set-up Hrs - Std Set-up Hrs) x Std Set-Up Rate] + [(Act Run Hrs - Std Run Hrs) x Std Lbr Rate]* *Std Run Hrs = Run Hrs/Unit x (Qty Complete + Qty Reject)*	
View in Report	*Work Order Cost Report (16.3.4)*	

PC-WO-380

Labor Burden Usage Variances—Summary

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Labor Burden Usage Variances

Manufacturing-Related Variances

Variance	When Calculated	Cause
Labor Burden Usage	SFC feedback (16.20.1, 16.20.2, 16.20.3); or WO Receipt (16.11/12)	Equivalent to labor usage variance with burden rates factored in
Formula	*[(Act Set-Up Hrs - Std Set-Up Hrs) x Set-Up Bdn] + [(Act Run Hrs - Std Run Hrs) x Std Run Bdn]* *Where:* *Set-Up Bdn = (Std Set-Up Rate x Lbr Bdn%) + Lbr Bdn Rate + (Mach Bdn Rate x Mach/Op)* *Run Bdn = (Std Run Rate x Lbr Bdn%) + Lbr Bdn Rate + Mach Bdn Rate*	
View in Report	*Work Order Cost Report (16.3.4)*	

QAD Proprietary

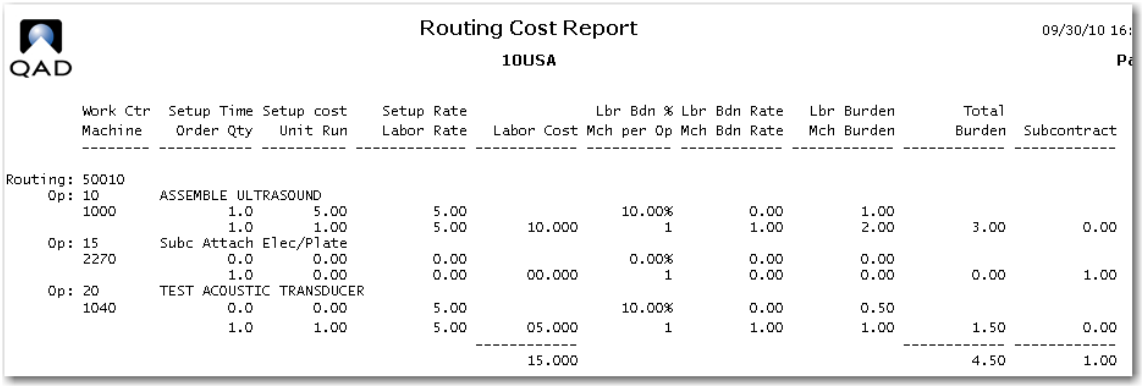
PC-WO-390

Activity 7: Work Order Labor Transactions

In This activity you will process a work order to see the affect of non-standard labor rates and non-standard labor usage. You will see both labor and burden variances calculated. You will see a subcontract variance and will learn how to read the work order cost report.

1 Use item planning maintenance 1.4.7 for the 50010, set the order quantity to one (1). Verify the yield is 100%.

2 Review the route for the 50010 Acoustic Transducer use the routing cost report 14.13.14 as this shows costs as well as operation times. This will verify your setup steps from an earlier activity.



Routing Cost Report

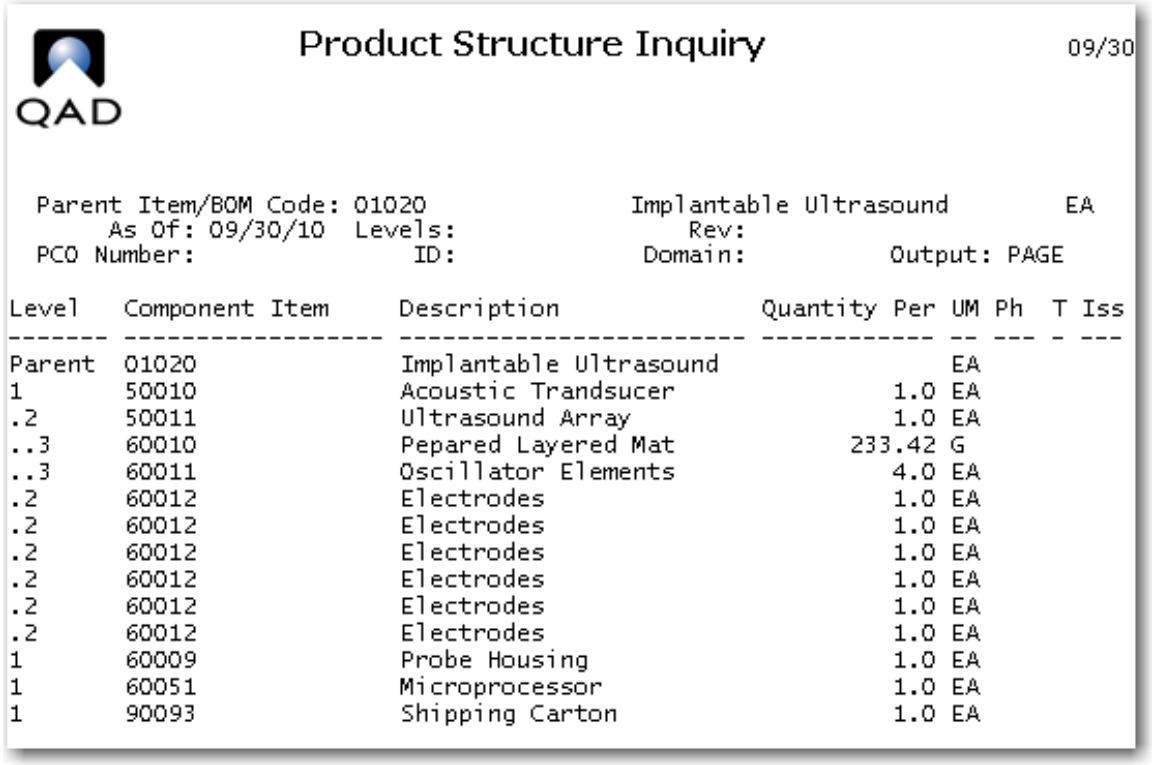
09/30/10 16:

10USA

	Work Ctr / Machine	Setup Time / Order Qty	Setup cost / Unit Run	Setup Rate / Labor Rate	Labor Cost	Lbr Bdn % / Mch per Op	Lbr Bdn Rate / Mch Bdn Rate	Lbr Burden / Mch Burden	Total Burden	Subcontract
Routing: 50010										
Op: 10	ASSEMBLE ULTRASOUND									
	1000	1.0	5.00	5.00		10.00%	0.00	1.00		
		1.0	1.00	5.00	10.000	1	1.00	2.00	3.00	0.00
Op: 15	Subc Attach Elec/Plate									
	2270	0.0	0.00	0.00		0.00%	0.00	0.00		
		1.0	0.00	0.00	00.000	1	0.00	0.00	0.00	1.00
Op: 20	TEST ACOUSTIC TRANSDUCER									
	1040	0.0	0.00	5.00		10.00%	0.00	0.50		
		1.0	1.00	5.00	05.000	1	1.00	1.00	1.50	0.00
					15.000				4.50	1.00

You see that the setup time and run time for operation 10 are both one hour at a rate of 5.00/hour. Operation 15 is a subcontract operation with a cost of 1.00, and operation 20 has no setup and run time of 1 hour at a rate of 5.00/hour.

3 Use product structure inquiry 13.6 to review the components, set the level option to one.



Product Structure Inquiry 09/30

QAD

Parent Item/BOM Code: 01020 Implantable Ultrasound EA
As Of: 09/30/10 Levels: Rev:
PCO Number: ID: Domain: Output: PAGE

Level	Component Item	Description	Quantity Per	UM	Ph	T	Iss
Parent	01020	Implantable Ultrasound		EA			
1	50010	Acoustic Trandsucer	1.0	EA			
.2	50011	Ultrasound Array	1.0	EA			
..3	60010	Pepared Layered Mat	233.42	G			
..3	60011	Oscillator Elements	4.0	EA			
.2	60012	Electrodes	1.0	EA			
.2	60012	Electrodes	1.0	EA			
.2	60012	Electrodes	1.0	EA			
.2	60012	Electrodes	1.0	EA			
.2	60012	Electrodes	1.0	EA			
.2	60012	Electrodes	1.0	EA			
1	60009	Probe Housing	1.0	EA			
1	60051	Microprocessor	1.0	EA			
1	90093	Shipping Carton	1.0	EA			

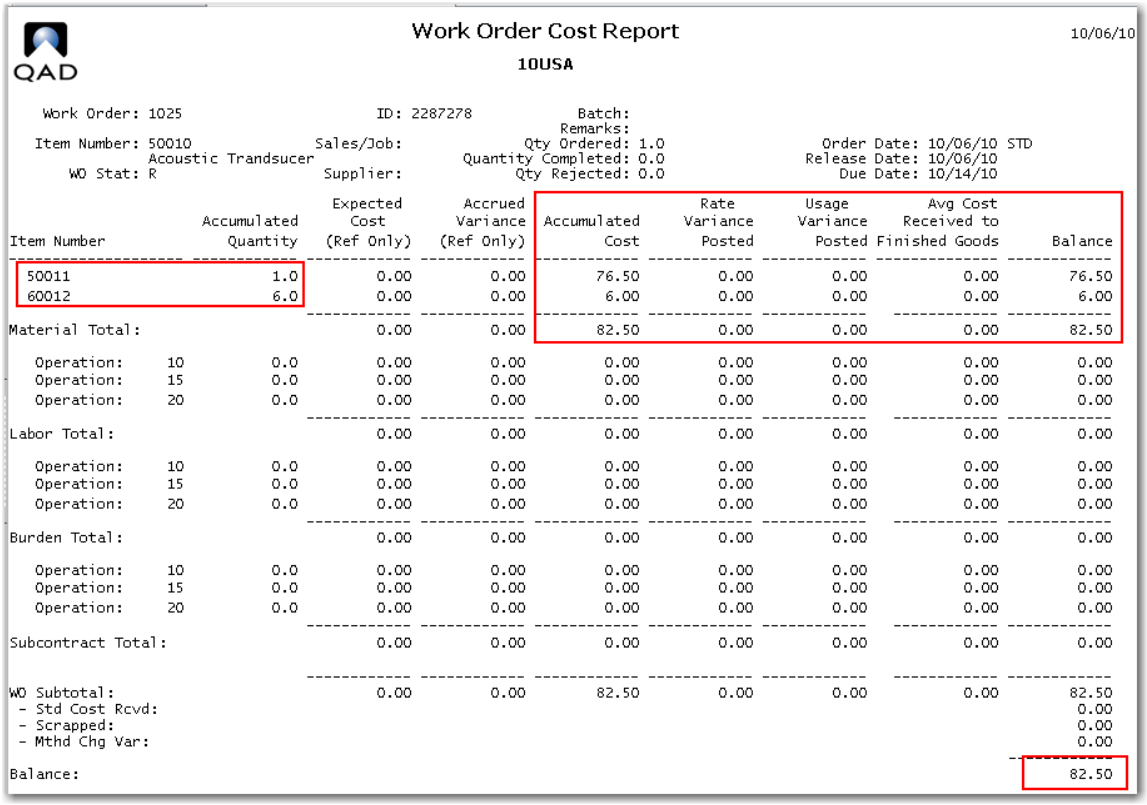
4 Use Product Structure Cost report to verify the total GL standard 14.5coat of the 50010 is 96.75

5 Use Actual Pay Rate Maintenance 14.13.21, verify employee 10-EMP02 has a rate of pay of 5.00.

6 Verify work center 1000, and 1040 each have machine burden rate of 1.00/hour, both setup and run labor of 5.00/hour and labor burden of 10% and no labor burden rate.

7 Create a work order for one 50010 at site 10-100, set its status at R. Use work order component check 16.5, you are probably short the 50011 Ultrasound Array. Use receipts unplanned 3.9 to receive 10 each of the 50011.

8 Issue the components to the work order, check issue allocated for easy one click issues. Review the work order cost report 16.3.4, you should see only the material cost of 82.50.



QAD

Work Order Cost Report 10/06/10

10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Transducer Quantity Completed: 0.0 Release Date: 10/06/10
WO Stat: R Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number	Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011	1.0	0.00	0.00	76.50	0.00	0.00	0.00	76.50
60012	6.0	0.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:		0.00	0.00	82.50	0.00	0.00	0.00	82.50
Operation: 10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 15	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor Total:		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 15	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Burden Total:		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 15	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:		0.00	0.00	0.00	0.00	0.00	0.00	0.00
WO Subtotal:		0.00	0.00	82.50	0.00	0.00	0.00	82.50
- Std Cost Rcvd:								0.00
- Scrapped:								0.00
- Mthd Chg Var:								0.00
Balance:								82.50

9 Use labor feedback by work order 16.20.1, for your work order at operation 10, and employee 10-EMP02. For operation 10 report one unit complete, charge one hour setup and 1.5 hours run time. The box Move Next Operation, should default to checked, if not check it. This will move the work order to the subcontract operation.

Note The training system has the default time indicator set to hours and minutes. You may change it to decimal hours by changing the time indicator in Shop Floor Control 16.20.24.

Note Labor feedback has electronic signatures enabled. Use, User ID qmi (or whatever you used to log onto the training database, and for Reason Code use active employee.

Review the work order cost report.

You see the expected cost, for labor and burden at operation 10 and the accrued usage variance for both as a result of charging an extra half hour run labor at the operation.

QAD

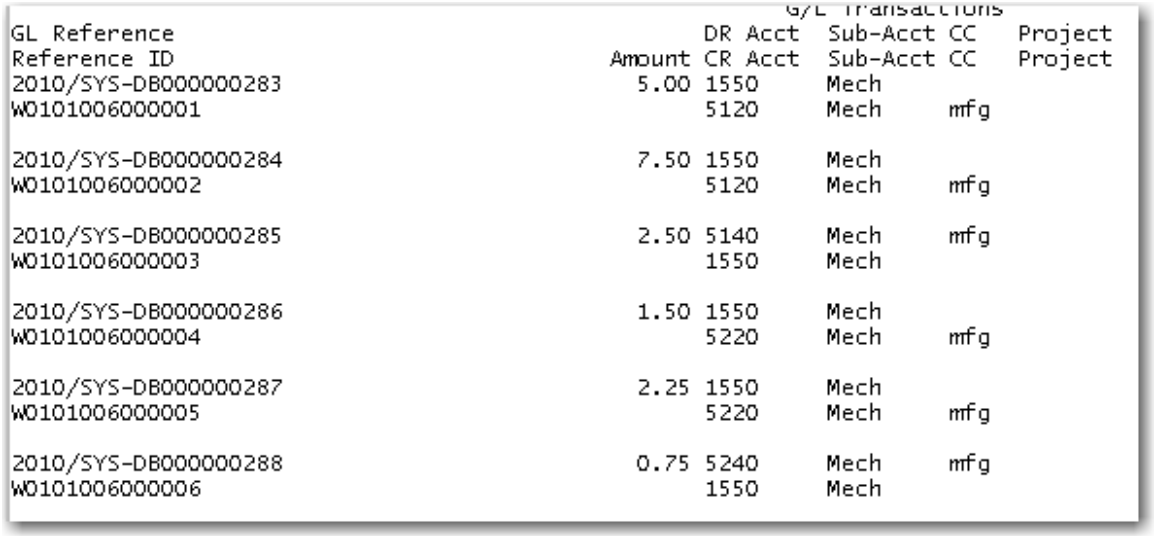
Work Order Cost Report 10/06/10

10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Trandsucer Quantity Completed: 0.0 Release Date: 10/06/10
WO Stat: R Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number	Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011	1.0	0.00	0.00	76.50	0.00	0.00	0.00	76.50
60012	6.0	0.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:		0.00	0.00	82.50	0.00	0.00	0.00	82.50
Operation: 10	1.0	10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation: 15	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor Total:		10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation: 10	1.0	3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation: 15	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Burden Total:		3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation: 10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 15	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation: 20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:		0.00	0.00	0.00	0.00	0.00	0.00	0.00
WO Subtotal:		13.00	3.25	98.75	0.00	3.25	0.00	95.50
- Std Cost Rcvd:								0.00
- Scrapped:								0.00
- Mthd Chg Var:								0.00
Balance:								95.50

Use Operation Transaction Detail Inquiry 16.20.13.9 to see how these labor charges have been booked.



G/L Transactions

GL Reference Reference ID	Amount	DR Acct CR Acct	Sub-Acct Sub-Acct	CC CC	Project Project
2010/SYS-DB000000283 WO1010060000001	5.00	1550 5120	Mech Mech	 mfg	
2010/SYS-DB000000284 WO1010060000002	7.50	1550 5120	Mech Mech	 mfg	
2010/SYS-DB000000285 WO1010060000003	2.50	5140 1550	Mech Mech	mfg	
2010/SYS-DB000000286 WO1010060000004	1.50	1550 5220	Mech Mech	 mfg	
2010/SYS-DB000000287 WO1010060000005	2.25	1550 5220	Mech Mech	 mfg	
2010/SYS-DB000000288 WO1010060000006	0.75	5240 1550	Mech Mech	mfg	

Account 1550 is the WIP account 5120 is Labor absorbed, 5140 is labor usage variance and 5240 is burden usage variance.

10 Use labor feedback by work order 16.20.1 for your work order at operation 15, and employee 10-EMP02. For operation 15 report one unit complete, and charge no time, this is an outside process. The box Move Next Operation, should default to checked, if not check it. This will move the work order to operation 20.

11 Review the work order cost report. You should see the subcontract cost at operation 15 of 1.00 and a variance of -1.0. Because you do not have a PO and PO receipt to cover the vended operation the system thinks you got the operation for free. Note the standard cost of the operation has been added to the total.

QAD

Work Order Cost Report 10/06/1

10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Trandsucer Quantity Completed: 0.0 Release Date: 10/06/10
WO Stat: R Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		1.0	0.00	0.00	76.50	0.00	0.00	0.00	76.50
60012		6.0	0.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:			0.00	0.00	82.50	0.00	0.00	0.00	82.50
Operation:	10	1.0	10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor Total:			10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation:	10	1.0	3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Burden Total:			3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
WO Subtotal:			14.00	2.25	98.75	0.00	2.25	0.00	96.50
- Std Cost Rcvd:									0.00
- Scrapped:									0.00
- Mthd Chg Var:									0.00
Balance:									96.50

Use Operation Transaction Detail Inquiry 16.20.13.9 to see how these charges have been booked. Account 5440 is subcontract usage variance.

GL Reference		G/L Transactions		
	DR Acct	Sub-Acct	CC	Project
Reference ID	Amount CR Acct	Sub-Acct	CC	Project
2010/SYS-DB000000289	1.00 1550	Mech		
WO101006000007	5440	Mech		

12 Employee 10-EMP02 has been given a pay increase. Use Actual Pay Rate Maintenance 14.13.21 to change the employees pay rate to 7.50.

13 Use labor feedback by work order 16.20.1 for your work order at operation 20, and employee 10-EMP02. For operation 20 report one unit complete, and charge one hour run time. The box Move Next Operation should default to unchecked, as there are no more operations. If it is checked uncheck it.

14 Review the work order cost report. You should see the labor and burden costs for operation 20.

QAD

Work Order Cost Report 10/06/1

10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Trandsucer Quantity Completed: 0.0 Release Date: 10/06/10
WO Stat: R Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		1.0	0.00	0.00	76.50	0.00	0.00	0.00	76.50
60012		6.0	0.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:			0.00	0.00	82.50	0.00	0.00	0.00	82.50
Operation:	10	1.0	10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	5.00	2.50	7.50	2.50	0.00	0.00	5.00
Labor Total:			15.00	5.00	20.00	2.50	2.50	0.00	15.00
Operation:	10	1.0	3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	1.50	0.25	1.75	0.25	0.00	0.00	1.50
Burden Total:			4.50	1.00	5.50	0.25	0.75	0.00	4.50
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
WO Subtotal:			20.50	5.00	108.00	2.75	2.25	0.00	103.00
- Std Cost Rcvd:									0.00
- Scrapped:									0.00
- Mthd Chg Var:									0.00
Balance:									103.00

You now see a rate variance as the actual pay rate is greater than the standard. You also see the corresponding burden variances.

GL Reference / Reference ID	Amount	G/L Transactions DR Acct	Sub-Acct	CC	Project
2010/SYS-DB000000290	7.50	1550	Mech		
WO101006000008		5120	Mech	mfg	
2010/SYS-DB000000291	2.50	5150	Mech	mfg	
WO101006000009		1550	Mech		
2010/SYS-DB000000292	1.75	1550	Mech		
WO101006000010		5220	Mech	mfg	
2010/SYS-DB000000293	0.25	5250	Mech	mfg	
WO101006000011		1550	Mech		

Account 5150 is labor rate variance and 5250 is burden rate variance.

15 Receive and close the work order.

Review the work order cost report.

QAD

Work Order Cost Report 10/06/1

10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Trandsucer Quantity Completed: 1.0 Release Date: 10/06/10
WO Stat: C Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		1.0	76.50	0.00	76.50	0.00	0.00	0.00	76.50
60012		6.0	6.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:			82.50	0.00	82.50	0.00	0.00	0.00	82.50
Operation:	10	1.0	10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	5.00	2.50	7.50	2.50	0.00	0.00	5.00
Labor Total:			15.00	5.00	20.00	2.50	2.50	0.00	15.00
Operation:	10	1.0	3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	1.50	0.25	1.75	0.25	0.00	0.00	1.50
Burden Total:			4.50	1.00	5.50	0.25	0.75	0.00	4.50
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
WO Subtotal:			103.00	5.00	108.00	2.75	2.25	0.00	103.00
- Std Cost Rcvd:									-96.75
- Scrapped:									0.00
- Mthd Chg Var:									0.00
Balance:									6.25

The work order status is now C, closed. You have received the GL standard credit to WIP of 96.75 and the debit to inventory in the same amount. The 6.25 is the total of rate and usage variances and will book to the respective variance accounts. The 1.00 is still in the work center record and will be written to the cost of production account.

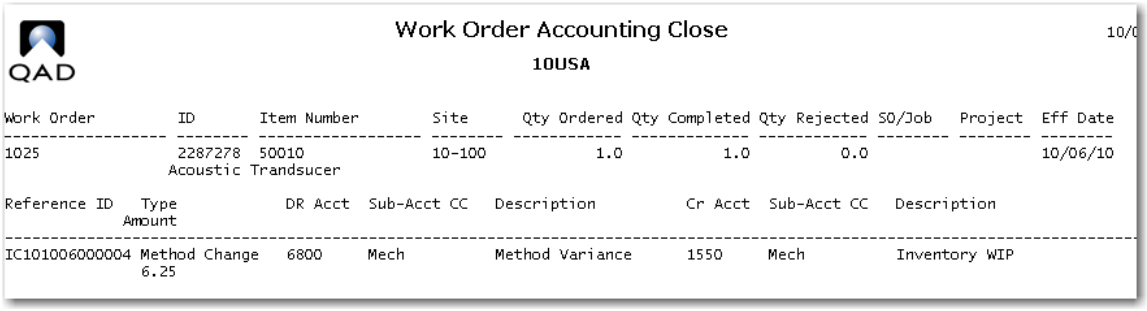
The work order close does not create any operation transactions. It does create inventory transactions as seen in Transaction Detail Inquiry 3.21.1. The debit to inventory and credit to WIP.

RCT-WO

Debit Acct: 1500 Mech
Cr Account: 1550 Mech
Amount: 96.75 Reference ID: IC101006000003
GL Reference: 2010/WORCT000000020

16 For purposes of this activity only Employee 10-EMP02 has had their pay increase rescinded. Use Actual Pay Rate Maintenance 14.13.21 to change the employees pay rate back to 5.00.

17 Run Work Order Accounting Close for your order. Review the report of this transaction.



Work Order Accounting Close 10/0

10USA

Work Order	ID	Item Number	Site	Qty Ordered	Qty Completed	Qty Rejected	SO/Job	Project	Eff Date
1025	2287278 Acoustic Transducer	50010	10-100	1.0	1.0	0.0			10/06/10

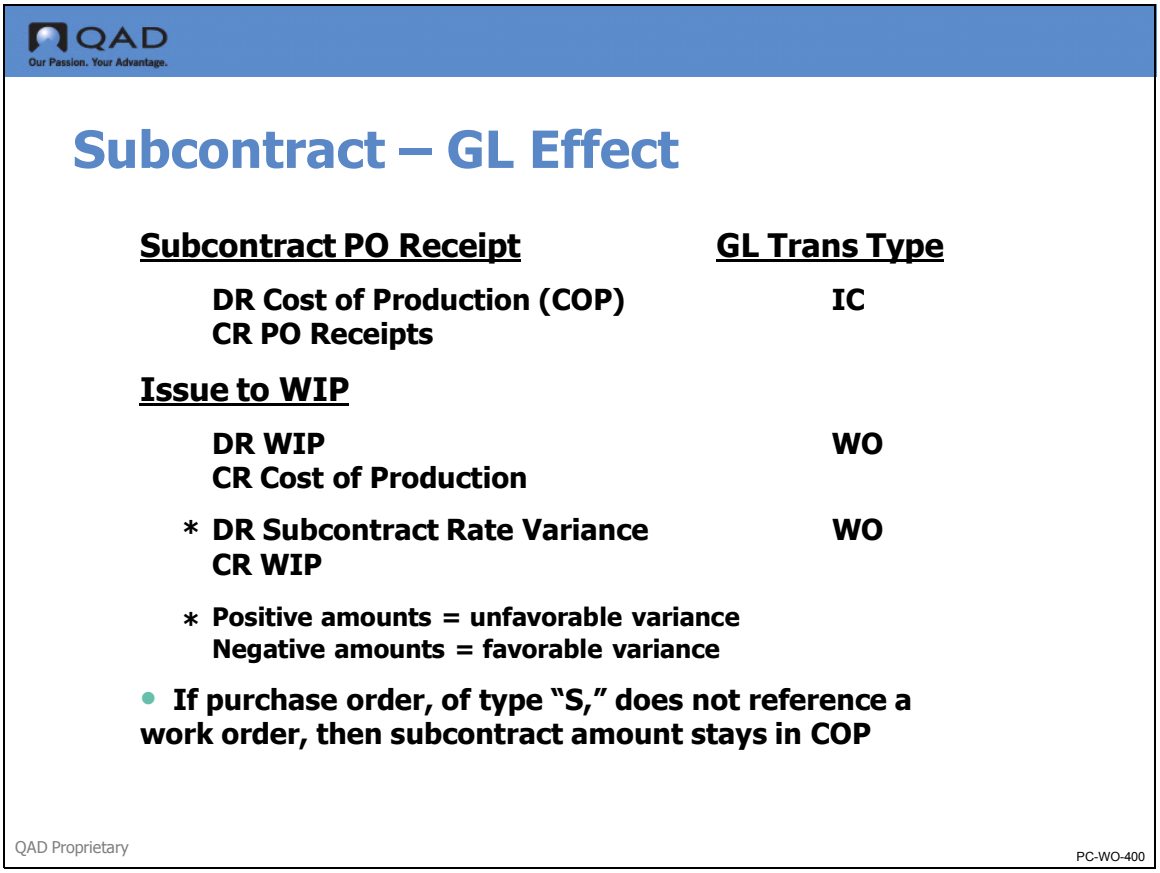
Reference ID	Type	DR Acct	Sub-Acct	CC	Description	Cr Acct	Sub-Acct	CC	Description	Amount
IC101006000004	Method Change	6800	Mech		Method Variance	1550	Mech		Inventory WIP	6.25

You see the 6.25 total in variances have been credited to WIP and debited to method change variance 6800.

18 Use 1.4.9 Item Cost Maintenance; compare the GL cost with the current cost. What has happened? Based on the control setting the current cost has been updated to reflect the actual costs of the order just closed.

This completes the work order process. You have seen labor usage and rate variances and the corresponding burden variances. The subcontract variance is a usage variance due to the lack of a purchase order to cover the cost and receipt of the item. Had there been a PO that charged a different price than the 1.00 standard you would have seen a purchase price variance (PPV). If, for example, the vendor had damaged the piece beyond repair, (or somehow returned more than you sent) you would see a subcontract usage variance.

Subcontract—GL Effect



Along with material issues, labor, and burden, there is one other source of cost on a work order—subcontract cost, which is the cost that an external supplier charges for processing a manufacturing operation for you. We saw this earlier, when we discussed purchasing, but let's quickly review it again here.

- The materials are received on a purchase order and the actual cost accrued (credit PO Receipts). Because the PO is flagged as Subcontract, the cost is posted to Cost of Production (debit).

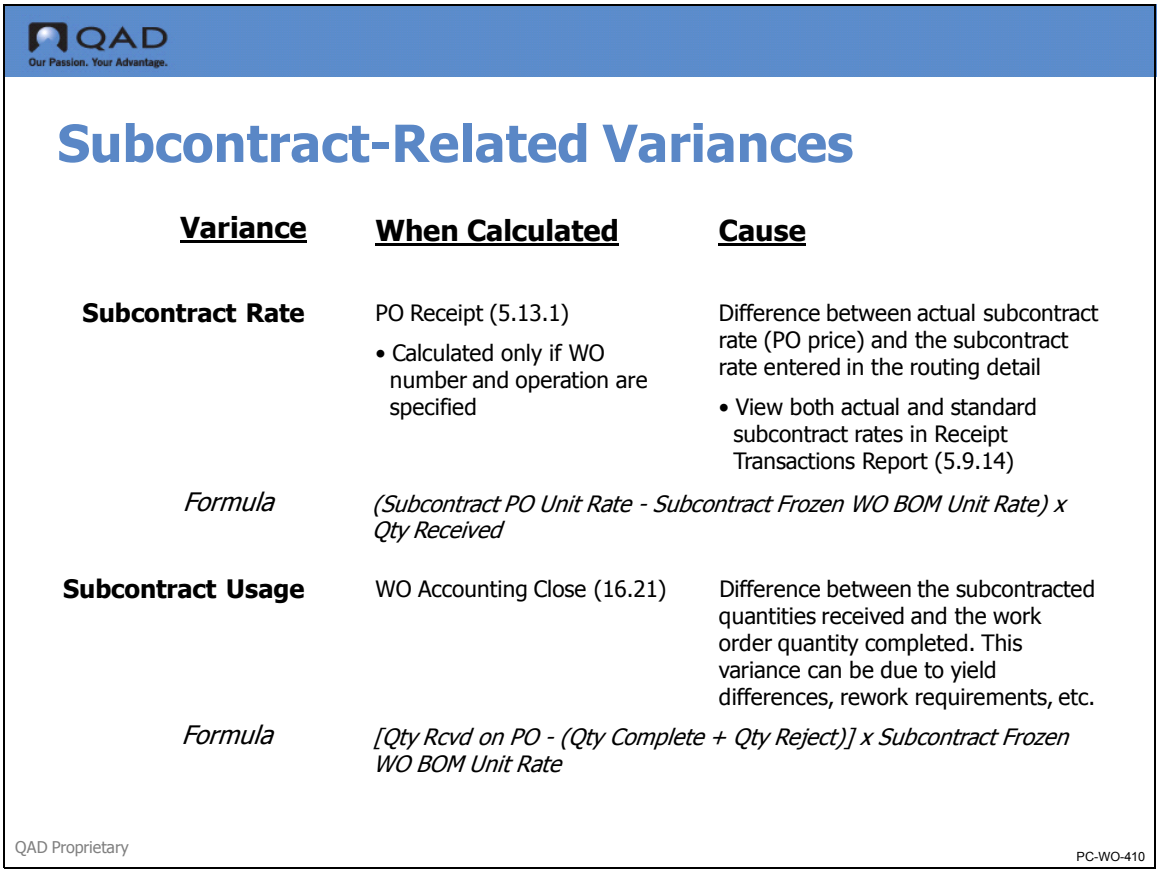
  If the purchase order receipt transaction specifies a valid work order and operation, then this transaction is processed to issue the materials to WIP

- The actual cost is taken out of the Cost of Production account (credit) and put into WIP (debit) where it belongs
- Then the actual cost on the PO is compared to the standard (frozen) subcontract cost specified on the work order routing. If there is a difference, it is posted as a Subcontract Rate Variance. The amount is:

  (Subcontract PO Unit Rate - Subcontract Frozen WO BOM Unit Cost) x Qty Received

- Upon work order receipt, the total standard cost less overhead is subtracted from WIP and posted to inventory
- Upon Work Order Accounting Close:
  - All Material and Subcontract Usage Variances are subtracted from WIP and posted to work order usage variance
  - Any cost remaining in WIP is posted to work order Method Change Variance

Subcontract-Related Variances—Summary



Subcontract Rate Variance

On subcontract purchase orders, there are no Purchase Price Variances (PPV). Instead of PPV, QAD Enterprise Applications debits the Subcontract Rate Variance account.

The total amount posted as Subcontract Rate Variance is:

(Subcontract PO Unit Cost - Subcontract Frozen WO BOM Unit Cost) x Qty Received

Where subcontract WO BOM unit rate is the rate entered in Routing Maintenance (14.13.1)

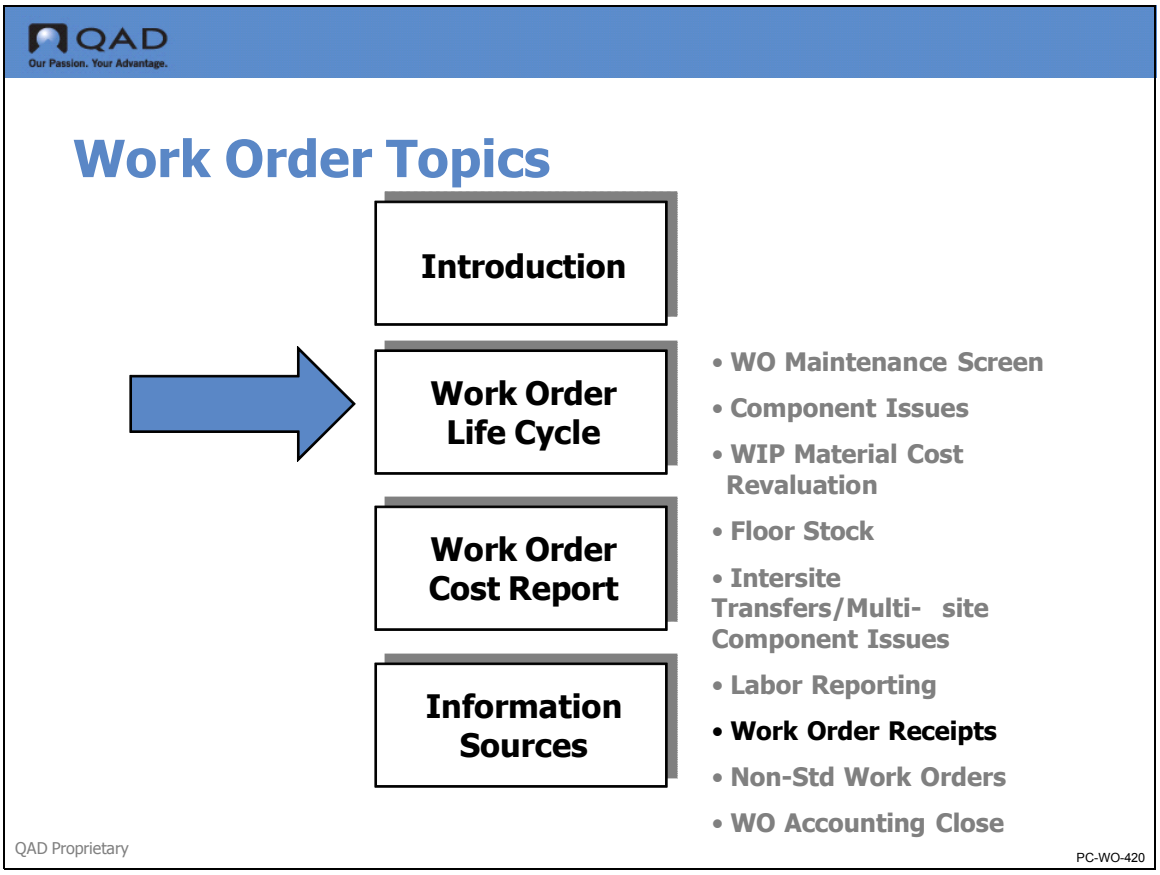
Subcontract Usage Variance

This variance is generated upon Work Order Accounting Close (16.21), and tracks the difference between the quantity invoiced on a subcontract PO and the quantity completed in work in process.

The total amount posted as Subcontract Usage Variance is:

[Qty Received on PO - (Op Qty Complete + Op Qty Reject)] x Subcontract Frozen WO BOM Unit Cost

- Any cost remaining in WIP is posted to work order Method Change Variance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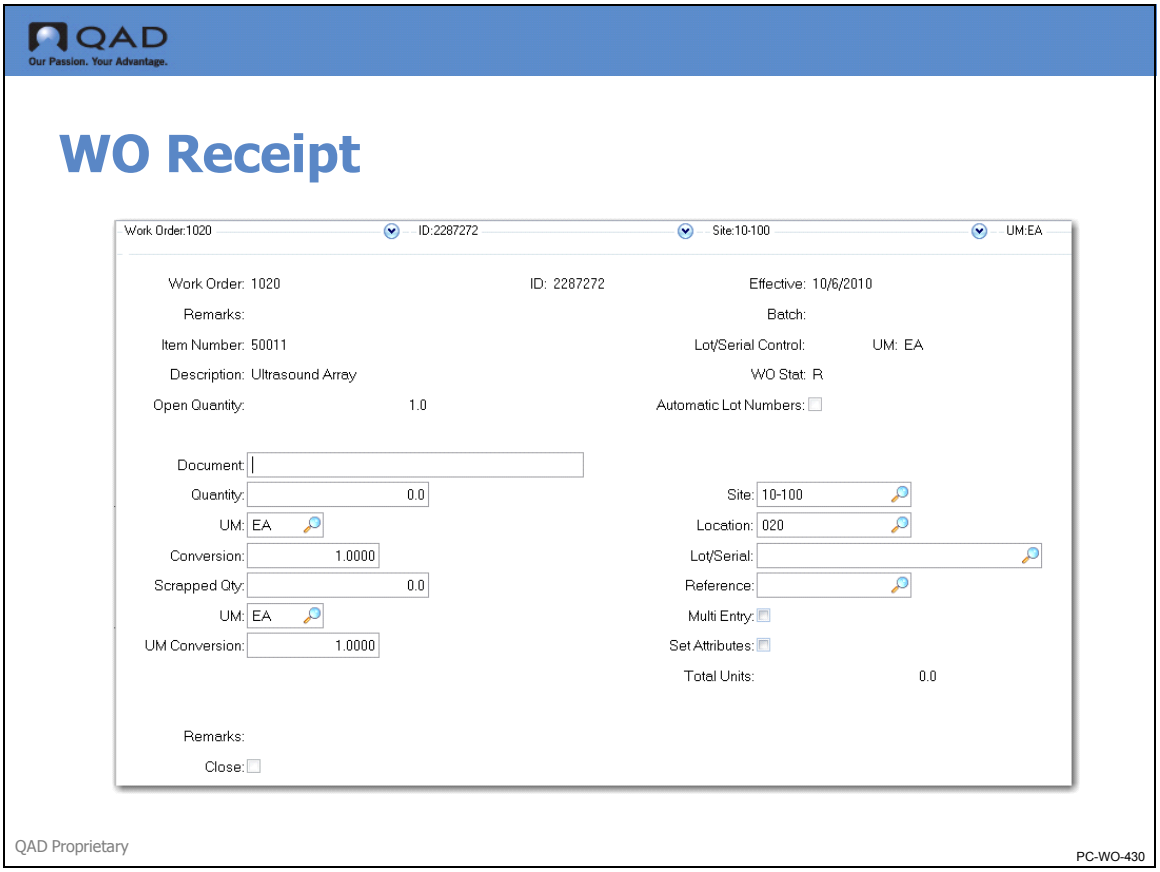
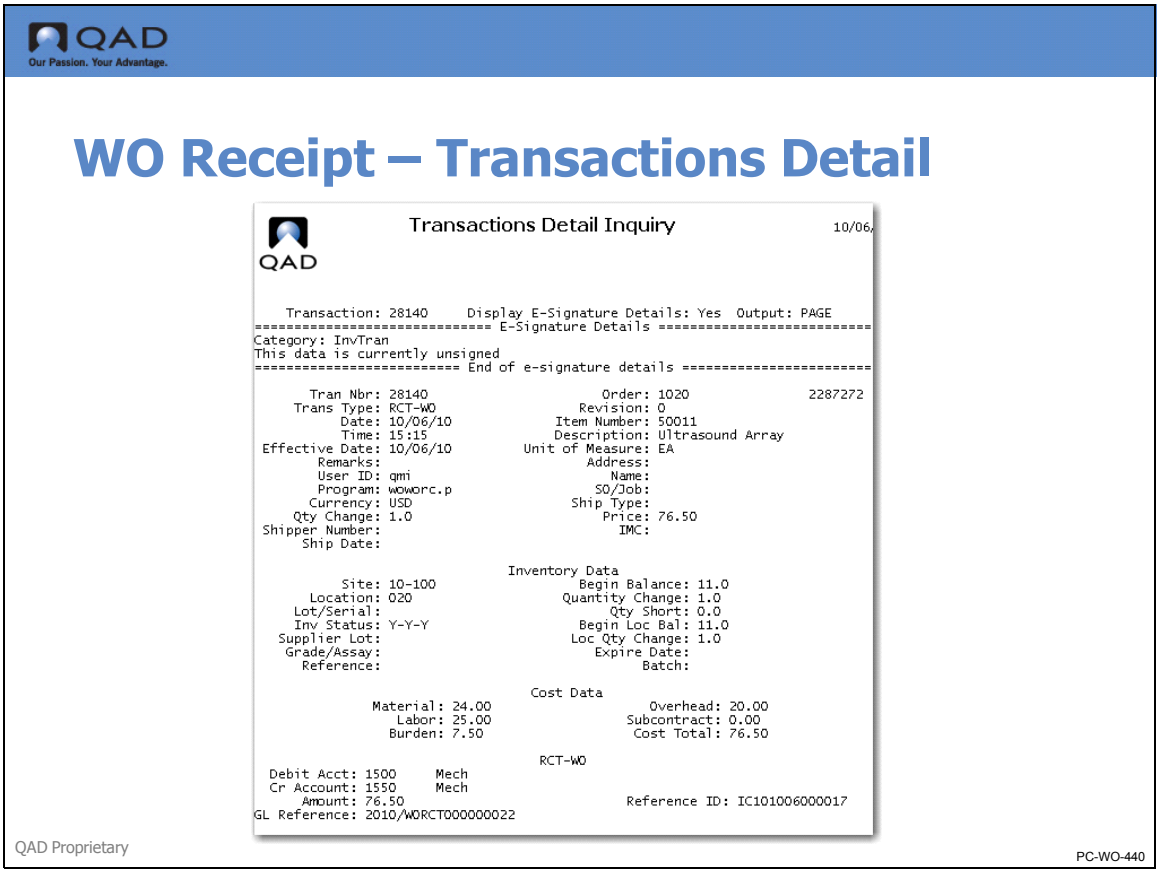
Work Order Topics
Introduction
Work Order Life Cycle
Work Order Cost Report
Information Sources
• WO Maintenance Screen
• Component Issues
• WIP Material Cost Revaluation
• Floor Stock
• Intersite Transfers/Multi- site Component Issues
• Labor Reporting
• Work Order Receipts
• Non-Std Work Orders
• WO Accounting Close
QAD Proprietary
PC-WO-420

Work Order Receipt



Once items have passed through all of the manufacturing operations, the finished units are received into stock either by using Work Order Receipt (16.11), or Work Order Receipt Backflush (16.12).

Transactions Detail



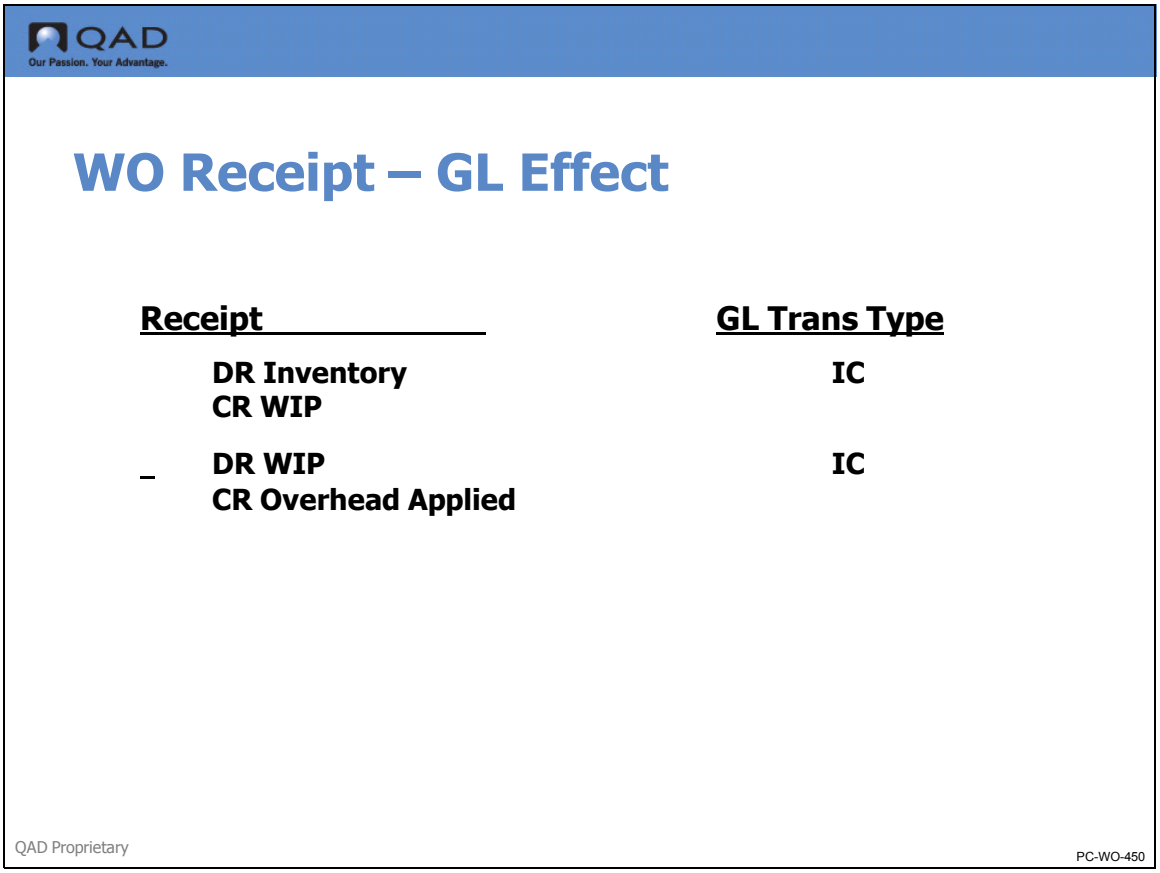
Work order receipt generates two GL transactions.

- First, it increases Inventory (debit) and decreases WIP (credit) for the total standard GL cost (including overhead) of the finished item at that site
- We removed the total standard cost of the item from WIP, including this-level overhead. But this-level overhead was not posted to WIP, so if we stopped here, our subsequent variance calculations would be incorrect. So, in a second GL transaction, this-level Overhead amount is put back into WIP (debit) and absorbed by posting it to the Overhead Applied account (credit). This ensures that usage and method variances are not created for overhead amounts.

As with other transactions, for ease of audit, the GL transaction is identified as a type IC with the description set to RCT-WO followed by the work order number. The corresponding inventory transaction is identified as type RCT-WO as well.

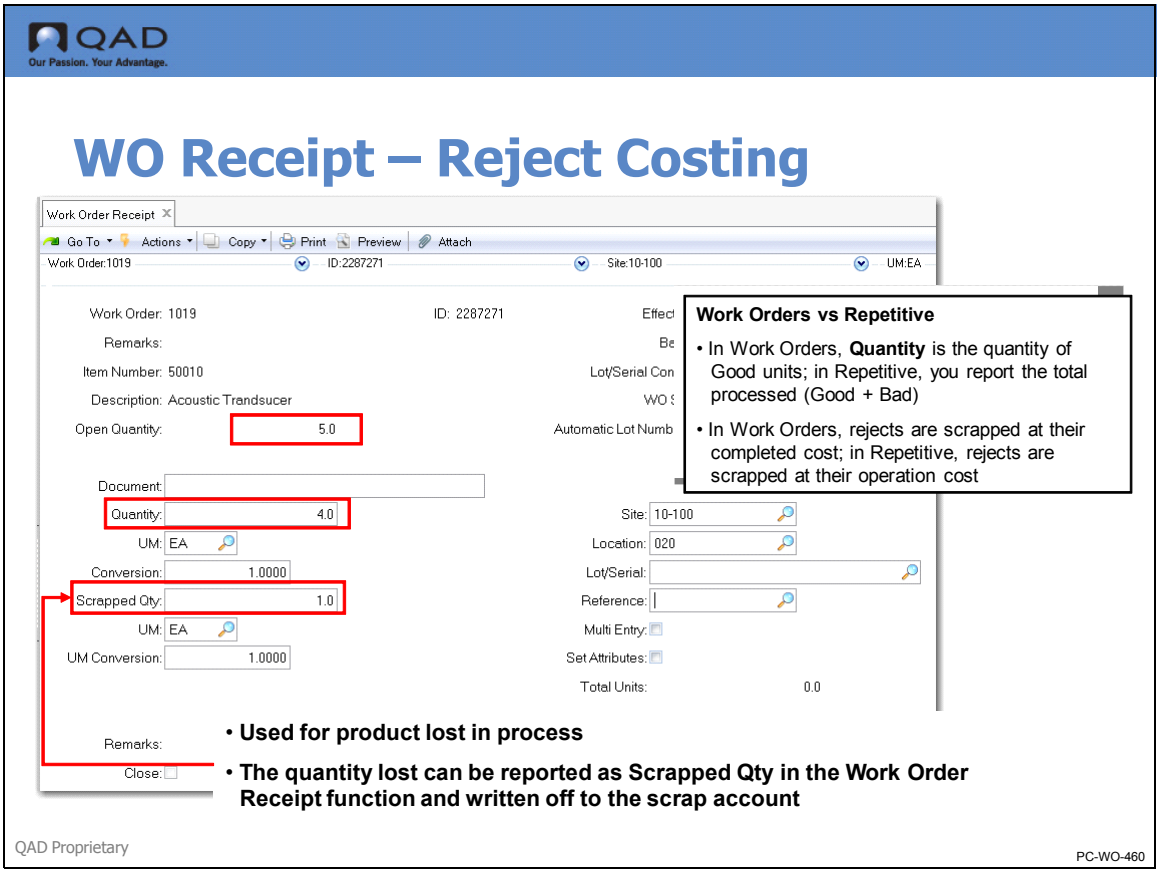
Note Finished items may be received into a site other than the work order site. When this happens, the system still processes the receipt into the work order site. Then it processes an inventory transfer.

Work Order Receipt—GL Effect



- The default general ledger entry:
  - Debits Inventory
  - Credits WIP
  - Debits WIP
  - Credits Overhead Applied

Work Order Receipt—Reject Costing



The following pages provide a brief review of "reject" costing and "loss" costing (yield percent)—which were discussed in detail on Reject and Loss Costing—as they pertain to Work Order Receipt (16.11).

In reject costing, you may report scrap in Work Order Receipt (16.21) (shown in the figure above)

Transactions Detail (Reject Costing)

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WO Receipt – Transactions Detail (Reject Costing)

QAD

Transactions Detail Inquiry 10/06

Transaction: 28141 Display E-Signature Details: Yes Output: PAGE

========== E-Signature Details ==========
Category: InvTran
This data is currently unsigned
========== End of e-signature details ==========

Tran Nbr: 28141 Order: 1019 2287271
Trans Type: RCT-WO Revision: 0
Date: 10/06/10 Item Number: 50010
Time: 15:28 Description: Acoustic Trandsucer
Effective Date: 10/06/10 Unit of Measure: EA
Remarks: Address:
User ID: qmi Name:
Program: woworc.p SO/Job:
Currency: USD Ship Type:
Qty Change: 4.0 Price: 96.75
Shipper Number: IMC:
Ship Date:

Inventory Data

Site: 10-100 Begin Balance: 9.0
Location: 020 Quantity Change: 4.0
Lot/Serial: Qty Short: 0.0
Inv Status: Y-Y-Y Begin Loc Bal: 5.0
Supplier Lot: Loc Qty Change: 4.0
Grade/Assay: Expire Date:
Reference: Batch:

Cost Data

Material: 27.00 Overhead: 20.00
Labor: 37.50 Subcontract: 1.00
Burden: 11.25 Cost Total: 96.75

RCT-WO

Debit Acct: 1500 Mech
Cr Account: 1550 Mech
Amount: 387.00 Reference ID: IC101006000018
GL Reference: 2010/WORCT000000023

RJCT-WO

Debit Acct: 6000 Mech
Cr Account: 1550 Mech
Amount: 96.75 Reference ID: IC101006000019
GL Reference: 2010/SYS-DB000000299

QAD Proprietary

PC-WO-470

- Upon completion of production, Inventory is debited the actual quantity of good units (standard quantity - scrapped quantity) × GL cost (see RCT-WO in figure above)

  (Qty Complete - Scrapped Qty) x GL Cost
  (5-1) x 96.75 = 387.00

- Scrapping is booked by crediting for the number of scrapped units × (GL cost - overhead), and debiting the Scrap account for the same amount (see RJCT-WO in figure above)

  Number of Scrapped Units × (GL Cost - Overhead)
  1 x (96.75- 0) = 96.75

Work Order Receipt—Loss Costing

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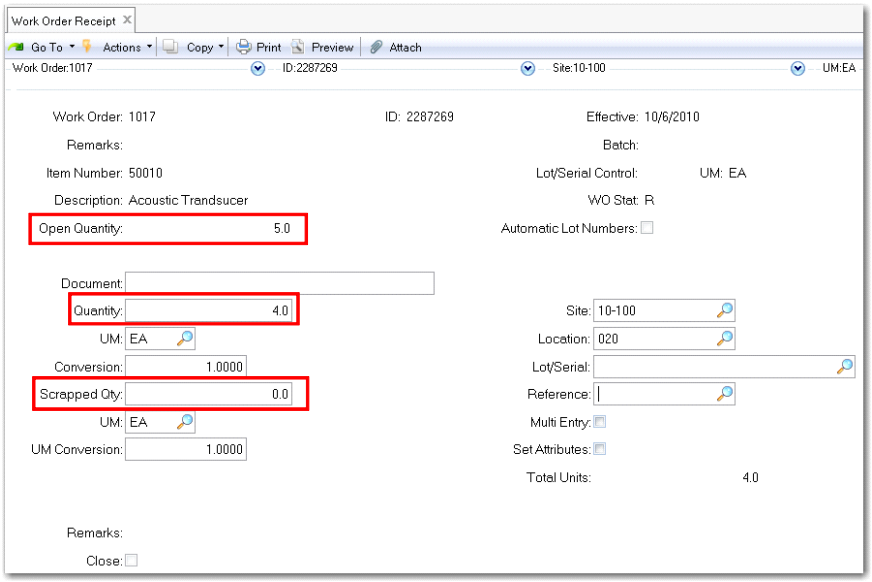
WO Receipt – Loss Costing



Starting a work order with a quantity of 5 and completing 4 will leave 1 unit of components, plus any labor and burden expended, in WIP at completion.

QAD Proprietary

PC-WO-480

In loss costing (yield %), a standard yield factor has been added to the item such that the "standard yield cost is built into the cost of each unit. In this case when you complete more units or fewer units than standard quantity, you do not report scrap at work order receipt. See the class Product Costing for a detailed discussion of Loss Costing (yield %).

The Work Order Accounting Close (16.10), calculates the usage variances

Activity 8: Scrap at Work Order Receipt

In this you will process a work order and scrap some a unit at work order receipt. To demonstrate an additional function you will use work order receipt backflush. You will not process any labor transactions so you will see all labor booked at standard based on the backflush quantity. So the costs will look familiar you will use the 50010 as in the previous activity.

1 Create a work order for two of the 50010 at site 10-100, set the status to R. As you are using a backflush transaction, do not issue components.

You've had a bad day in manufacturing and one of the units has been damaged beyond repair.

2 Use Work Order Receipt Backflush 16.12 for your order. Note in the header the system has defaulted the Receive and Backflush boxes with a check mark. This indicates you are going to both receive the finished units and backflush the components required for that number of items with this one transaction. Leave both boxes checked.

In the body of the form note the open quantity of 2. In the quantity field enter 1, and in the Scrapped Qty. field enter 1. Close the order, check the close box. After the system shows you the item being received a screen appears that asks how may units worth of components do you many to backflush. The system defaults to the open order quantity. As you have used all the components leave the quantity at 2. The following screens are the component issue screens and are processed the same way.

3 Review the work order cost report.

QAD

Work Order Cost Report

10/06/10

10USA

Work Order: 1027 ID: 2287281 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 2.0 Order Date: 10/06/10 STD
Acoustic Transducer Quantity Completed: 1.0 Release Date: 10/06/10
WO Stat: C Supplier: Qty Rejected: 1.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		2.0	153.00	0.00	153.00	0.00	0.00	0.00	153.00
60012		12.0	12.00	0.00	12.00	0.00	0.00	0.00	12.00
Material Total:			165.00	0.00	165.00	0.00	0.00	0.00	165.00
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Burden Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00
WO Subtotal:			165.00	0.00	165.00	0.00	0.00	0.00	165.00
- Std Cost Rcvd:									-96.75
- Scrapped:									-96.75
- Mthd Chg Var:									0.00
Balance:									-28.50

You see that the order has been charged with two sets of components and credited with the GL cost of the one unit received, and the cost of the one unit scrapped. There are not yet any labor charges.

4 Run work order accounting close, and review the report.

QAD

Work Order Accounting Close

10USA

Work Order	ID	Item Number	Site	Qty Ordered	Qty Completed	Qty Rejected	SO/Job	Project	E
1027	2287281 Acoustic Trandsucer	50010	10-100	2.0	1.0	1.0			1

Reference ID	Type	Amount	DR Acct	Sub-Acct	CC	Description	Cr Acct	Sub-Acct	CC	Description
WO101006000019	WO-CLOSE	10.00	1550	Mech		Inventory WIP	5120	Mech	mfg	Labor Absorbed
WO101006000020	WO-CLOSE	3.00	1550	Mech		Inventory WIP	5220	Mech	mfg	Burden Absorbed
WO101006000021	WO-CLOSE	5.00	1550	Mech		Inventory WIP	5120	Mech	mfg	Labor Absorbed
WO101006000022	WO-CLOSE	10.00	1550	Mech		Inventory WIP	5120	Mech	mfg	Labor Absorbed
WO101006000023	WO-CLOSE	1.50	1550	Mech		Inventory WIP	5220	Mech	mfg	Burden Absorbed
WO101006000024	WO-CLOSE	3.00	1550	Mech		Inventory WIP	5220	Mech	mfg	Burden Absorbed
WO101006000025	WO-CLOSE	-2.00	5440	Mech		Subcontract Usage Va	1550	Mech		Inventory WIP
IC101006000016	Method Change	6.00	6800	Mech		Method Variance	1550	Mech		Inventory WIP

The labor and burden charges have now been made, and the subcontract and method variance. The work order cost report now looks like this.

QAD

Work Order Cost Report 10/06/10

10USA

Work Order: 1027 ID: 2287281 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 2.0 Order Date: 10/06/10 STD
Acoustic Trandsucer Quantity Completed: 1.0 Release Date: 10/06/10
WO Stat: C Supplier: Qty Rejected: 1.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		2.0	153.00	0.00	153.00	0.00	0.00	0.00	153.00
60012		12.0	12.00	0.00	12.00	0.00	0.00	0.00	12.00
Material Total:			165.00	0.00	165.00	0.00	0.00	0.00	165.00
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Burden Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00
WO Subtotal:			165.00	0.00	165.00	0.00	0.00	0.00	165.00
- Std Cost Rcvd:									-96.75
- Scrapped:									-96.75
- Mthd Chg Var:									0.00
Balance:									-28.50

Why is there a 6.00 method change variance on this order? Because you made two on one order and the standard order quantity is one. Setup time is only charged once per order, while run time is per piece. This order saved 5.00 in setup labor and 1.00 in setup machine burden.

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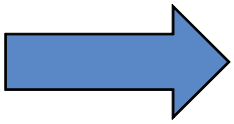
Work Order Topics



Introduction

Work Order Life Cycle

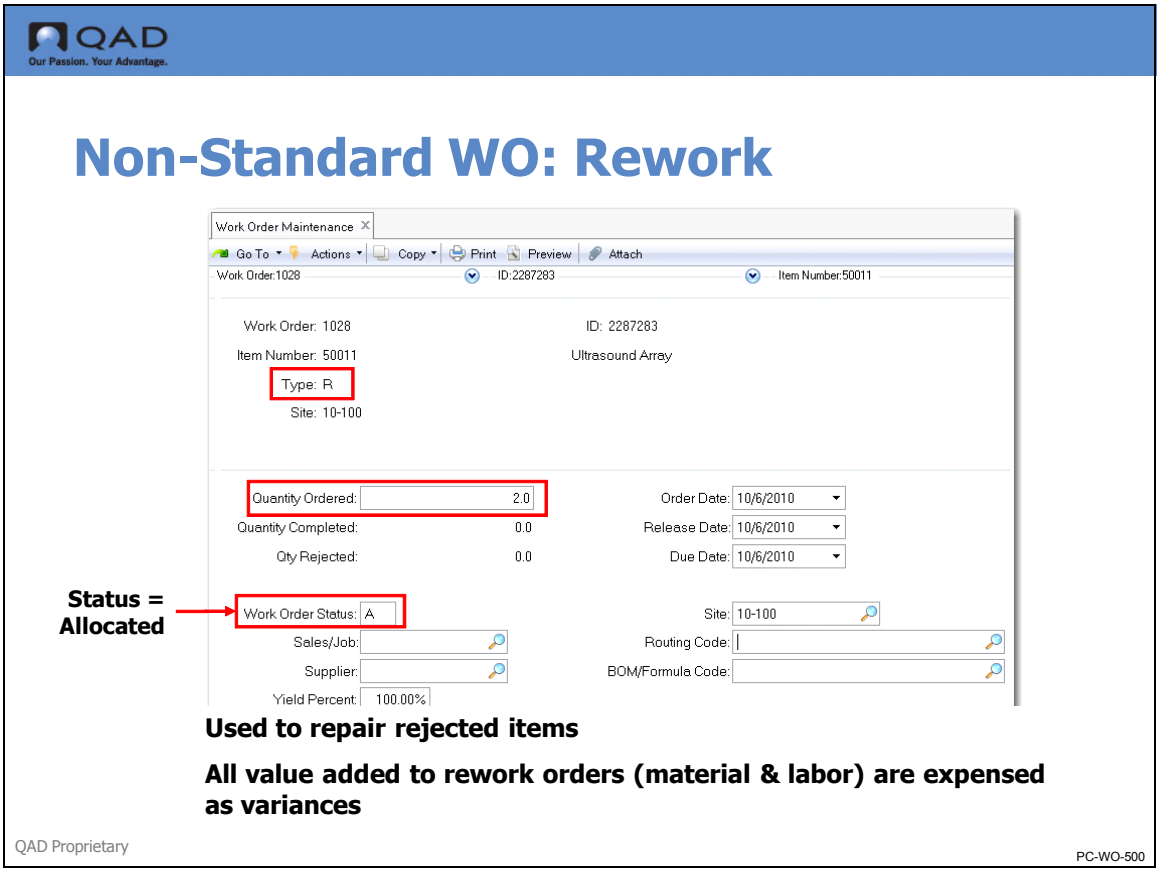
- WO Maintenance Screen
- Component Issues
- WIP Material Cost Revaluation
- Floor Stock
- Intersite Transfers/Multi- site Component Issues
- Labor Reporting
- Work Order Receipts
- **Non-Std Work Orders**
- WO Accounting Close

Work Order Cost Report

Information Sources

PC-WO-490

Non-Standard Work Orders



Rework

Rework is used to repair items and uses the same calculations for variances as normal work orders. However, repair work orders have only one component, the item itself. Therefore, if 10 units of an item are to be reworked, then 10 are issued at standard to WIP, and if 10 are received as good items to stock, they will relieve WIP at standard. This will leave material issued and labor in WIP, which will be expensed as variances:

- Unrepairable units should be recorded as Scrap in the receipt, so they are written off to scrap
- All value added to rework orders are expensed as variances

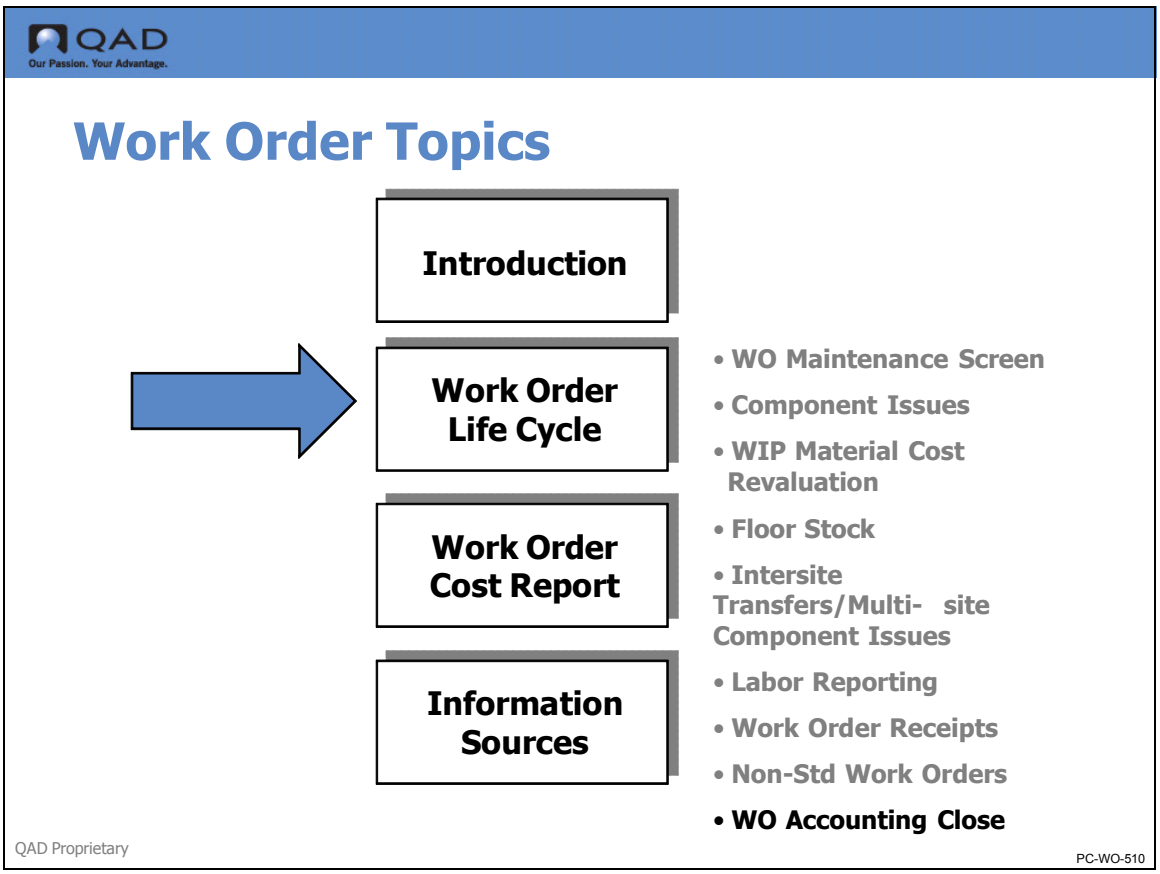
Note Use unique work order numbers for reworks and reclassify variances by journal entry (for labor and burden). Material variances can be redirected by changing accounts in Work Order Maintenance (16.1). Perform Work Order Accounting Close separately for these work orders.

Expense

Expense work orders (Type E) are used for non-inventory jobs, such as engineering prototypes or design projects. They are tracked by a work order so costs can be accumulated. Usually a special GL account and project code are entered.

- Expense work orders are normally not used for direct material and not received. Therefore all material and labor are expensed as variances.
- Expense work orders should not be accounting closed because the amount will be credited out of the Special GL account used and charged to variance

Work Order Accounting Close



Work Order Accounting Close (16.21), is usually run at the end of each GL calendar period as part of the period-end closing process. The accounting close serves several functions:

Completes Open Operations

Flags all operations as complete. No more labor can be recorded against this work order. Any unreported operations are closed at standard. (This operates like Complete Previous Operations in SFC labor feedback transactions and creates the same GL transactions to update WIP and absorb labor and burden.) Adjusts quantities completed at open operations to match the total of completions plus rejects at Work Order Receipt.

Posts Floor Stock

Costs of components flagged as Issue Policy = No are added to WIP before variances are calculated. Thus floor stock cost is not included in variance.

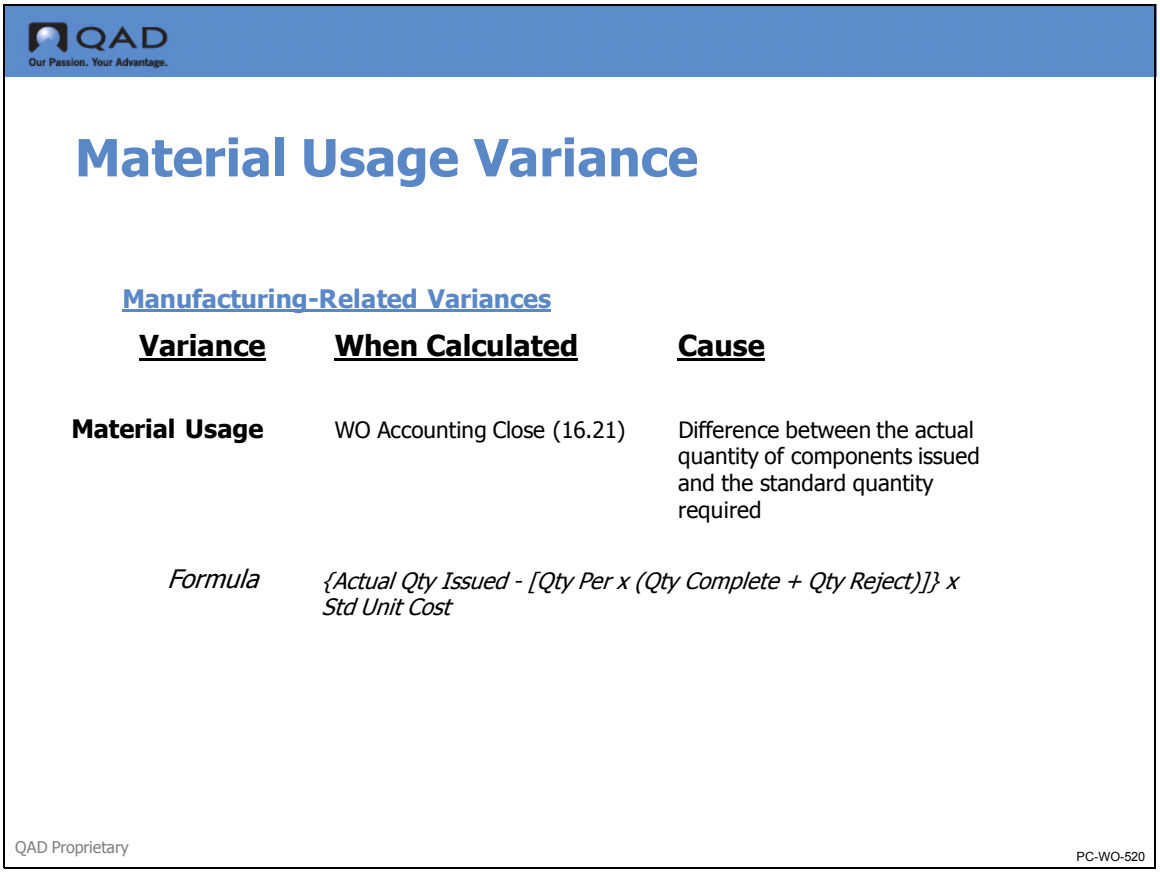
Calculates Usage Variances

Calculates material and subcontract usage variances. Total quantity issued is compared to total quantity required to make quantity reported complete (receipts plus rejects). Any difference is a usage variance.

Clears Out WIP Balance

Sets any remaining WIP balance to zero. Any amount left in WIP at this point is reported as a miscellaneous method variance that cannot be traced to any specific source (for example, material or labor, rate or usage). Method variances may result from the use of alternate bills and routings, different lot sizes, in-process loss, or changes in GL costs (without revaluing WIP). Because costs of component issues are tracked by operation, a method variance occurs if you issue components at an operation different than the one recorded in the bill.

Material Usage Variance—Summary



Material usage variance is generated when there is a difference between the actual quantity of components issued/backflushed and the standard quantity required.

This variance is calculated at Work Order Accounting Close 16.21.

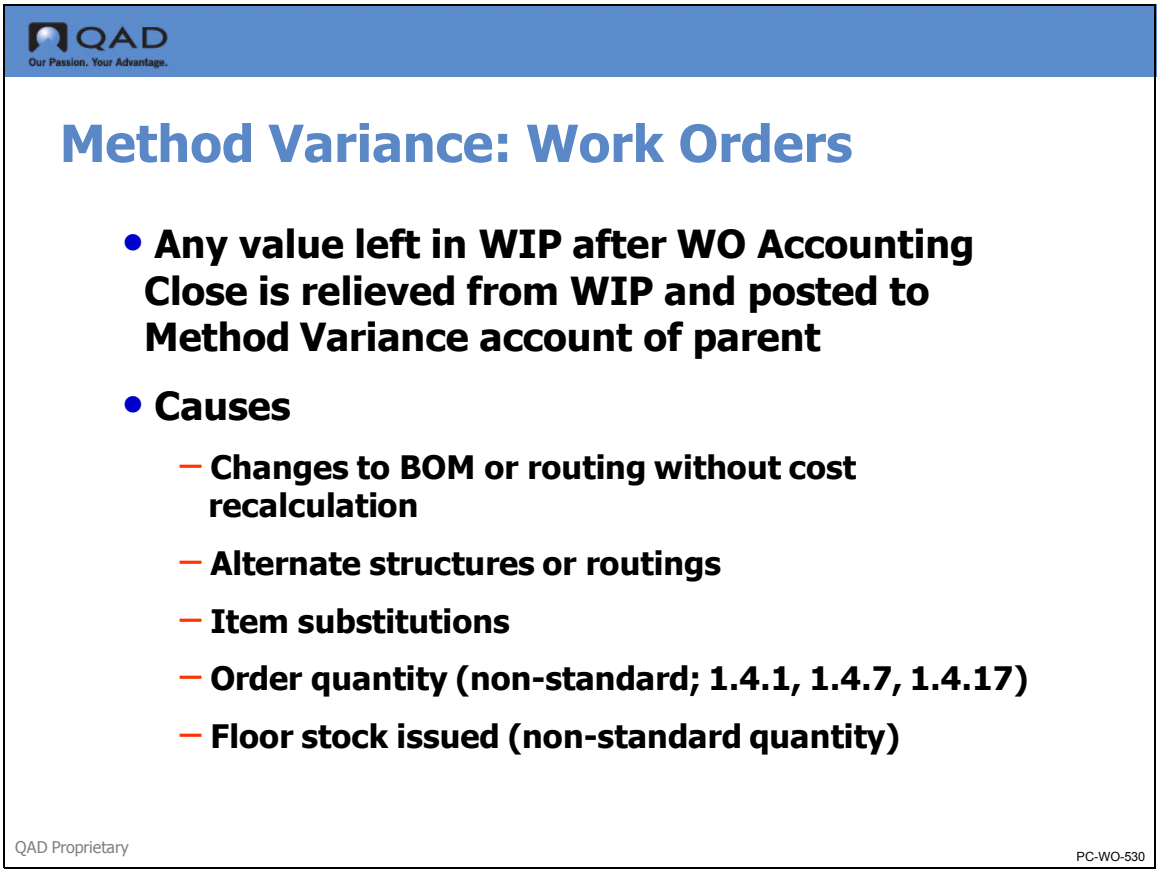
{Actual Qty Issued - [Qty Per x (Qty Complete + Qty Reject)]} x Frozen Std Unit Cost

This variance is calculated as:

{Actual Qty Issued - [Qty Per x (Qty Completed + Qty Rejected)]} x Frozen Std Unit Cost

- Alternate structures and issues of non-standard components will also create material usage variances, and if the costs differ from standard, a method change variance will be charged for that difference.

Method Variance



After Work Order Accounting Close (16.21), there should not be any value left in WIP for the order accounting closed.

If there is value in WIP after the Work Order Accounting Close has processed variances and floor stock, then this value will be relieved from WIP and posted to the Method Variance account of the parent item.

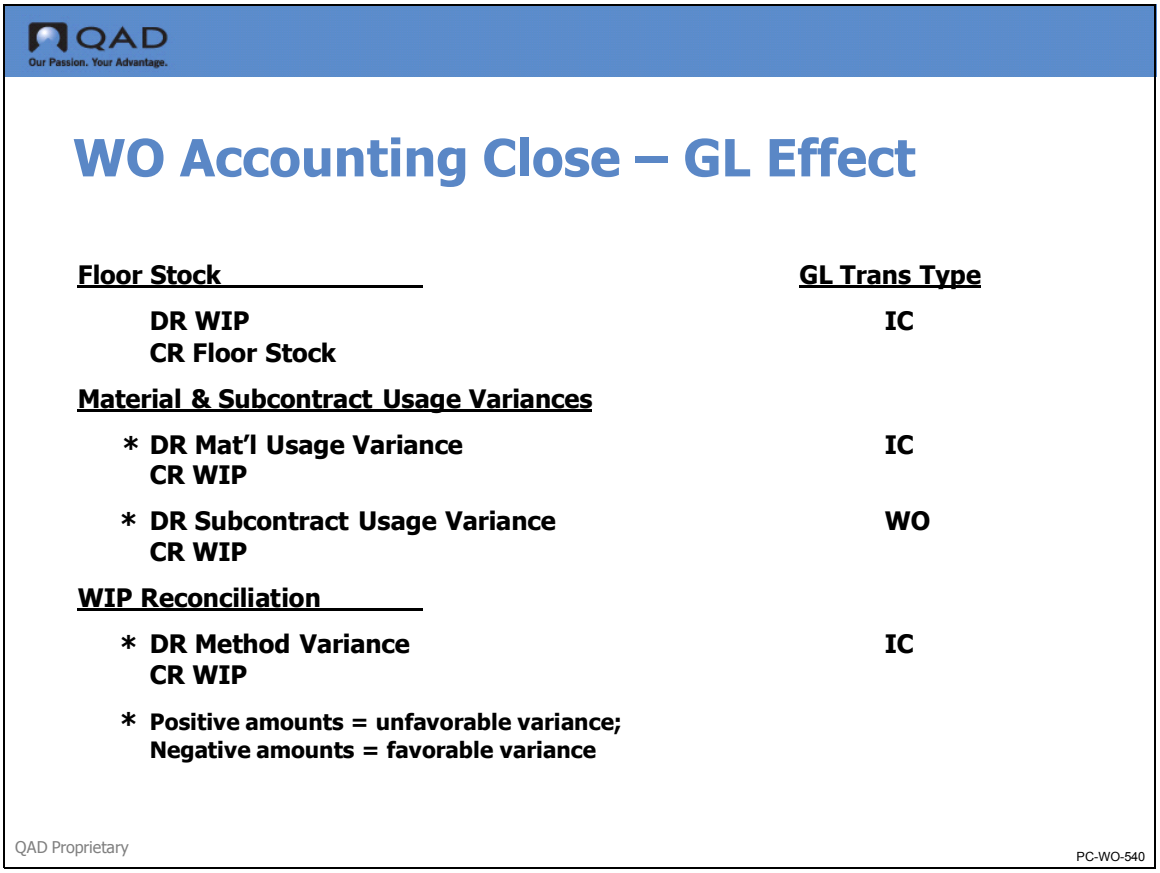
Causes of Method Variance

Some causes of method variance are:

- Changes to the bill of material or routing without recalculating new costs
- Use of alternate structures and/or routings
- Item substitutions
- Order quantity (non-standard)
- Floor stock (non-standard quantity issued)
- Manually changing the Yield % in the Item Planning screen for manufactured items so that the planning yield does not equal the rolled-up routing and product structure yield
- Batch quantity in Formula Maintenance (15.5) not the same as order quantity in Item Planning Maintenance (1.4.7) or Item Site Planning Maintenance(1.4.17)
- Wrong Quantity Per on work order BOM (Work Order Bill Maintenance (16.13.1))

If set-up cost is calculated as part of standard labor and burden, a method variance will occur for the difference between the standard order quantity on the item planning record and the work order quantity.

Work Order Accounting Close—GL Effect



The calculations and GL transactions created by the Work Order Accounting Close are listed below.

- Floor stock is calculated as:

  [(Qty Rcvd + Qty Rejected) x Qty Per] x Std Cost Per Unit

  This quantity is posted at standard cost to WIP (debit) and Floor Stock (credit).

- Material Usage Variance is calculated. If unfavorable, WIP is decreased (credit) by this amount and the variance is posted to the Material Usage Variance account (debit). The amount is equal to:

  Actual Qty Issued - [(Qty Completed + Qty Rejected) x Qty Per] x Frozen Std Unit Cost

- Subcontract Usage Variance is calculated like Material Usage Variance—comparing the number of subcontract items received to the number that should be required. It is calculated as:

  [Qty Received on PO - (Op Qty Completed + Op Qty Rejected)] x Subcontract Frozen WO BOM Unit Cost

- WIP is now set to zero. Any outstanding WIP amount is removed from WIP (credit) and posted to the Method Variance account (debit).

Note The GL transaction is WO-CLOSE wo#. Transaction type is IC or WO, as indicated.

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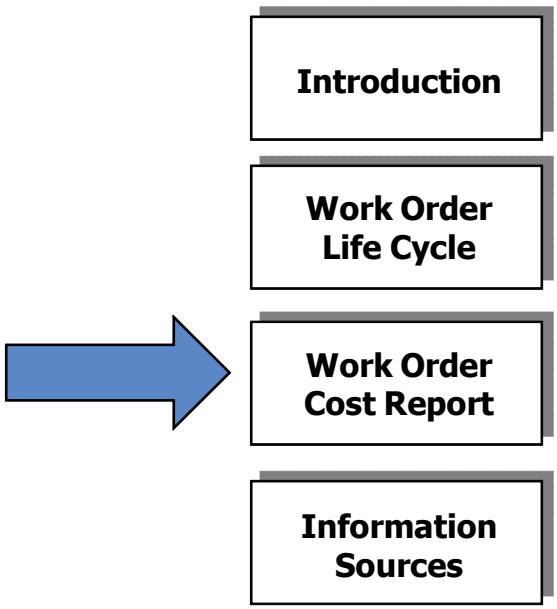
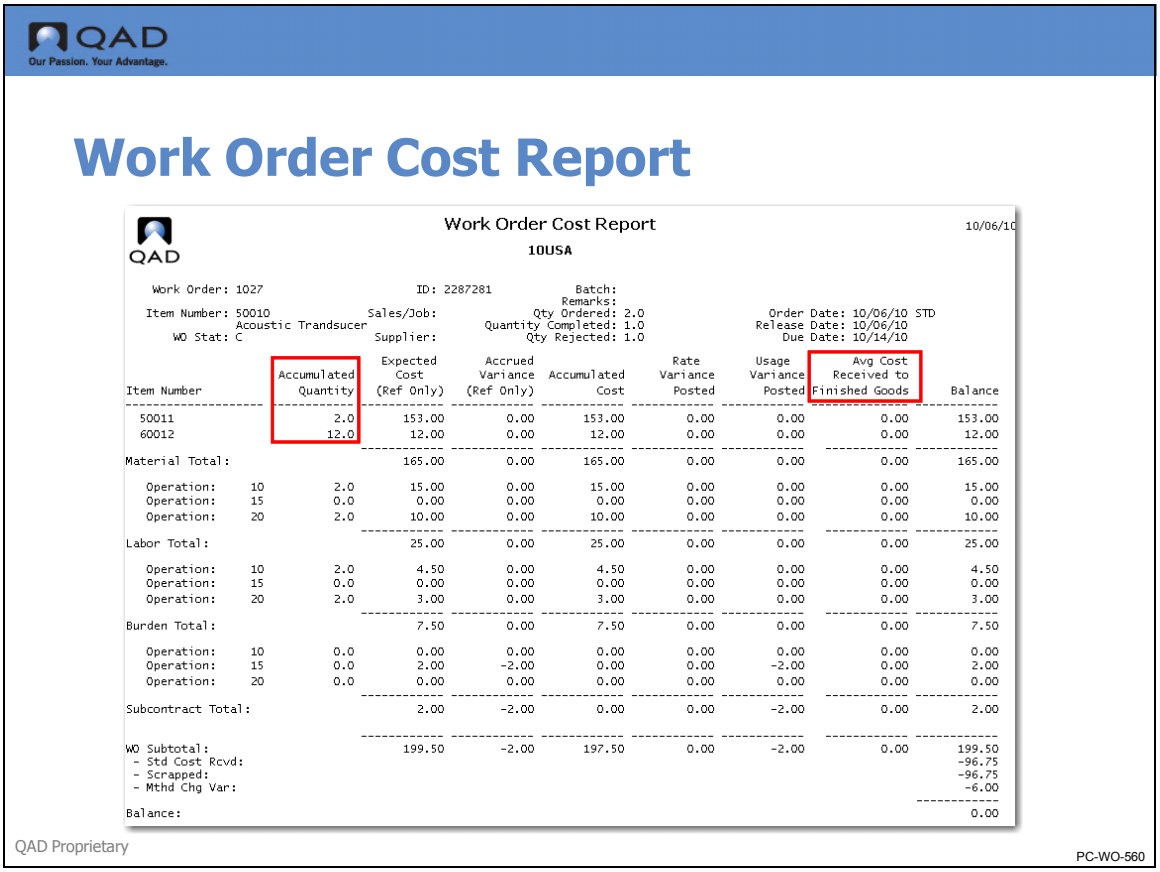


PC-WO-550

Work Order Cost Report



Introduction

The Work Order Cost Report (16.3.4), is designed for accountants and managers who need to analyze the costs and variances associated with work orders. This report is normally used for reporting closed work orders. It identifies work order costs, grouping them into five categories—material, labor, burden, subcontract, and method change.

- Material costs are supported by data from inventory transactions for work order components
- Labor, burden, and subcontract costs are supported by transactions for work order operations

Note If this report is run for work orders before they have been processed by Work Order Accounting Close (16.21), the variances calculated for those work orders may be incomplete.

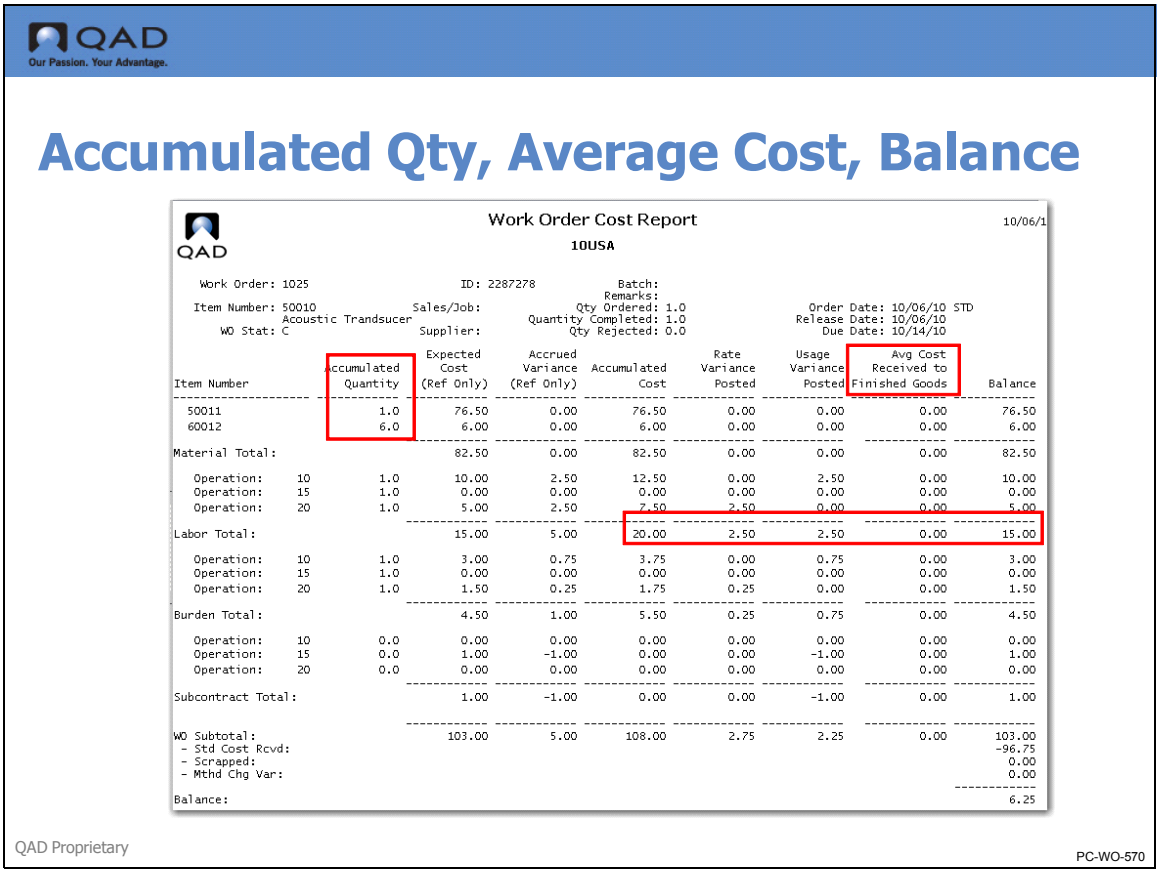
Detailed Discussion of the Work Order Cost Report

On the following pages, the calculations behind the numbers are provided—by column (expected cost, accrued variance, accumulated cost, rate variance posted, usage variance posted) and by category (material, labor, burden, subcontract, method variance).

First, though, three headings—accumulated quantity, average cost received, and balance—are covered more generally rather than by category.

Note Work Order Cost Report (16.3.4) does not detail overhead costs.

Accumulated Quantity



Work Order Cost Report

10/06/1

10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Transducer Quantity Completed: 1.0 Release Date: 10/06/10
WO Stat: C Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		1.0	76.50	0.00	76.50	0.00	0.00	0.00	76.50
60012		6.0	6.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:			82.50	0.00	82.50	0.00	0.00	0.00	82.50
Operation:	10	1.0	10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	5.00	2.50	7.50	2.50	0.00	0.00	5.00
Labor Total:			15.00	5.00	20.00	2.50	2.50	0.00	15.00
Operation:	10	1.0	3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	1.50	0.25	1.75	0.25	0.00	0.00	1.50
Burden Total:			4.50	1.00	5.50	0.25	0.75	0.00	4.50
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
WO Subtotal:			103.00	5.00	108.00	2.75	2.25	0.00	103.00
- Std Cost Rcvd:									-96.75
- Scrapped:									0.00
- Mthd Chg Var:									0.00
Balance:									6.25

For Material, Accumulated Quantity is the actual quantity of components issued to this work order or parent items processed by operation. For Labor and Burden, Accumulated Quantity represents the quantity reported complete in Shop Floor Control.

Average Cost Received to Finished Goods

Average Cost Received to Finished Goods is only used when the costing method for the GL cost set is average. This covered in detail in the Average Costing class.

Balance

Balance is the accumulated cost minus the rate and usage variances.

Expected Cost: Material

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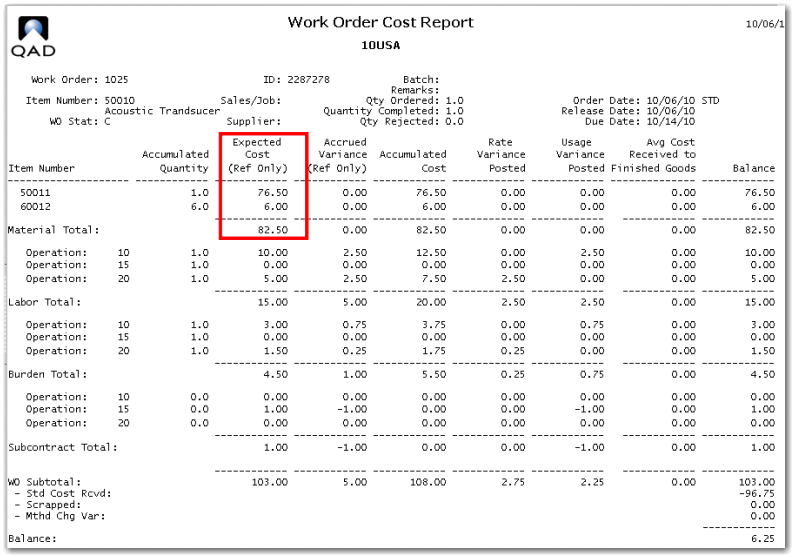
Expected Material Costs

- **The cost that is expected to be issued to the work order**
- **(Qty Completed + Qty Rejected) x Std Qty Per x Std Cost**



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Work Order Cost Report 10/06/1

10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Trandsucer Quantity Completed: 1.0 Release Date: 10/06/10
WO Stat: C Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		1.0	76.50	0.00	76.50	0.00	0.00	0.00	76.50
60012		6.0	6.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:			82.50	0.00	82.50	0.00	0.00	0.00	82.50
Operation:	10	1.0	10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	5.00	2.50	7.50	2.50	0.00	0.00	5.00
Labor Total:			15.00	5.00	20.00	2.50	2.50	0.00	15.00
Operation:	10	1.0	3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	1.50	0.25	1.75	0.25	0.00	0.00	1.50
Burden Total:			4.50	1.00	5.50	0.25	0.75	0.00	4.50
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
WO Subtotal:			103.00	5.00	108.00	2.75	2.25	0.00	103.00
- Std Cost Rcvd:									-96.75
- Scrapped:									0.00
- Mthd Chg Var:									0.00
Balance:									6.25

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PC-WO-580

The material section of the report lists all the components associated with the work order.

- The Expected Cost is:

  (Qty Complete + Qty Reject) x Frozen Qty Per x Frozen Std Cost

  If this amount is zero, you probably did not receive or scrap anything against this work order. If you have received something and the value is still zero or the wrong value, then check the frozen quantity per and standard cost. These can be viewed and updated in Work Order Bill Maintenance (16.13.1).

Accrued Variance

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Accrued Variance

- **Equal to the total of the Rate Variance and Usage Variance Columns**
- **Rate Variance + Usage Variance**

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Work Order Cost Report 10/06/1

10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Trandsucer Quantity Completed: 1.0 Release Date: 10/06/10
WO Stat: C Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		1.0	76.50	0.00	76.50	0.00	0.00	0.00	76.50
60012		6.0	6.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:			82.50	0.00	82.50	0.00	0.00	0.00	82.50
Operation:	10	1.0	10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	5.00	2.50	7.50	2.50	0.00	0.00	5.00
Labor Total:			15.00	5.00	20.00	2.50	2.50	0.00	15.00
Operation:	10	1.0	3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	1.50	0.25	1.75	0.25	0.00	0.00	1.50
Burden Total:			4.50	1.00	5.50	0.25	0.75	0.00	4.50
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
WO Subtotal:			103.00	5.00	108.00	2.75	2.25	0.00	103.00
- Std Cost Rcvd:									-96.75
- Scrapped:									0.00
- Mthd Chg Var:									0.00
Balance:									6.25

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PC-WO-590

The accrued variance is the variance the system has already recognized. It should be equal to the total of the rate variance posted and the usage variance posted columns.

Accumulated Cost: Material

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Accumulated Material Cost

Work Order Cost Report 10/06/1

10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Trandsucer Quantity Completed: 1.0 Release Date: 10/06/10
WO Stat: C Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		1.0	76.50	0.00	76.50	0.00	0.00	0.00	76.50
60012		6.0	6.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:			82.50	0.00	82.50	0.00	0.00	0.00	82.50
Operation:	10	1.0	10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	5.00	2.50	7.50	2.50	0.00	0.00	5.00
Labor Total:			15.00	5.00	20.00	2.50	2.50	0.00	15.00
Operation:	10	1.0	3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	1.50	0.25	1.75	0.25	0.00	0.00	1.50
Burden Total:			4.50	1.00	5.50	0.25	0.75	0.00	4.50
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
WO Subtotal:			103.00	5.00	108.00	2.75	2.25	0.00	103.00
- Std Cost Rcvd:									-96.75
- Scrapped:									0.00
- Mthd Chg Var:									0.00
									6.25

- **Actual Qty x Std Unit Cost**

Where Did the Numbers Come From?

- **For standard cost per unit, look in Item Cost Maintenance (1.4.9)**

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The accumulated cost of material is the actual cost of the work order. It is the actual quantity issued multiplied by the standard cost that was in effect at the time of the issue.

Rate Variance Posted: Material

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Material Rate Variance

- **The difference between the standard cost of the component at the time of issue and the frozen standard cost of the component, multiplied by the actual quantity issued**
- **Favorable variances are indicated by a negative number; unfavorable variances are indicated by a positive number**
- **(WO BOM Unit Cost at issue - GL Unit Cost) x Actual Qty Issued**

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Work Order Cost Report 10/06/1

10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Trandsucer Quantity Completed: 1.0 Release Date: 10/06/10
WO Stat: C Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		1.0	76.50	0.00	76.50	0.00	0.00	0.00	76.50
60012		6.0	6.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:			82.50	0.00	82.50	0.00	0.00	0.00	82.50
Operation:	10	1.0	10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	5.00	2.50	7.50	2.50	0.00	0.00	5.00
Labor Total:			15.00	5.00	20.00	2.50	2.50	0.00	15.00
Operation:	10	1.0	3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	1.50	0.25	1.75	0.25	0.00	0.00	1.50
Burden Total:			4.50	1.00	5.50	0.25	0.75	0.00	4.50
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
WO Subtotal:			103.00	5.00	108.00	2.75	2.25	0.00	103.00
- Std Cost Rcvd:									-96.75
- Scrapped:									0.00
- Mthd Chg Var:									0.00
Balance:									6.25

QAD Proprietary

PC-WO-610

The material rate variance posted is the standard cost of the component at the time of issue minus the frozen standard cost of the components multiplied by the quantity issued. This is calculated at the point of issue.

- Favorable variances display as negatives

  A negative indicates a credit balance. A credit balance for income statement accounts like variances are favorable.

- Unfavorable variances show as positives

Usage Variance Posted: Material

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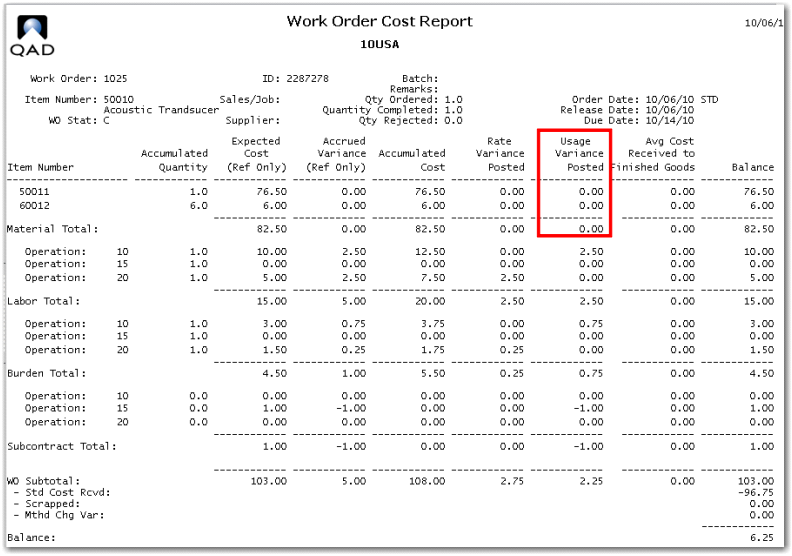
Material Usage Variance

- **The difference between the actual quantity used and the quantity that should have been used, multiplied by the frozen standard unit cost**
- **The quantity that should have been used is the quantity completed plus the quantity rejected, times the frozen quantity per**
- **Actual Qty - [(Qty Completed + Qty Rejected) x Qty Per] x Frozen Std Unit Cost**



Work Order Cost Report 10/06/1

QAD 10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Trandsucer Quantity Completed: 1.0 Release Date: 10/06/10
WO Stat: C Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		1.0	76.50	0.00	76.50	0.00	0.00	0.00	76.50
60012		6.0	6.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:			82.50	0.00	82.50	0.00	0.00	0.00	82.50
Operation:	10	1.0	10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	5.00	2.50	7.50	2.50	0.00	0.00	5.00
Labor Total:			15.00	5.00	20.00	2.50	2.50	0.00	15.00
Operation:	10	1.0	3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	1.50	0.25	1.75	0.25	0.00	0.00	1.50
Burden Total:			4.50	1.00	5.50	0.25	0.75	0.00	4.50
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
WO Subtotal:			103.00	5.00	108.00	2.75	2.25	0.00	103.00
- Std Cost Rcvd:									-96.75
- Scrapped:									0.00
- Mthd Chg Var:									0.00
Balance:									6.25

QAD Proprietary

PC-WO-620

The material usage variance posted is calculated during an accounting close. If you have not run an accounting close, the usage variance will be zero.

The usage variance is the actual quantity used minus the quantity that should have been used multiplied by the frozen standard of the component

- The quantity that should have been used is the quantity completed plus the quantity rejected multiplied by the frozen quantity per
- The frozen standard is used rather than the standard currently in effect because the rate variance already adjusted for the differential. If the current standard is used, it will effectively calculate the rate variance twice for the quantity over or under issued.

Expected Cost: Labor

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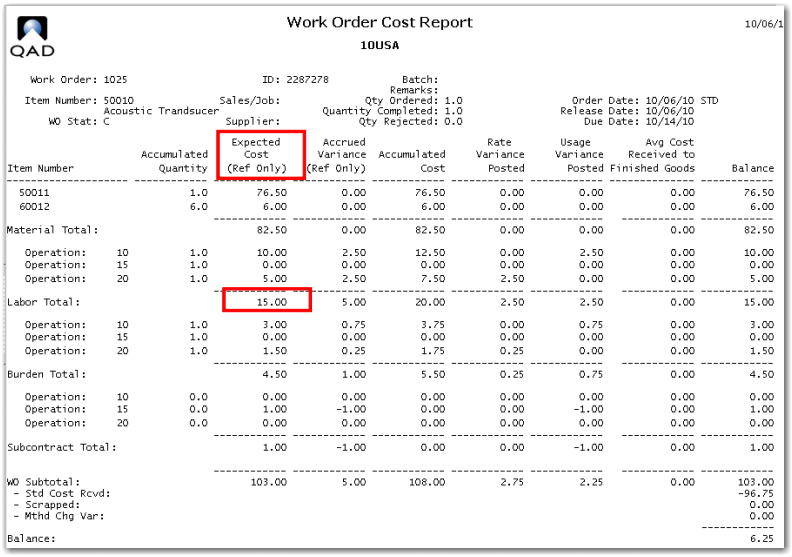
Expected Labor Cost

- **The labor cost that is expected to be issued to the work order**
- **For each operation, add together:**
  (Std Set-up Hrs/Qty x Std Set-up Rate) + (Std Run Hrs/Unit x Std Labor Rate) = Labor Cost per Unit
- **Labor Cost per Unit x Qty Completed**



QAD

Work Order Cost Report 10/06/1

10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Trandsucer Quantity Completed: 1.0 Release Date: 10/06/10
WO Stat: C Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		1.0	76.50	0.00	76.50	0.00	0.00	0.00	76.50
60012		6.0	6.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:			82.50	0.00	82.50	0.00	0.00	0.00	82.50
Operation:	10	1.0	10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	5.00	2.50	7.50	2.50	0.00	0.00	5.00
Labor Total:			15.00	5.00	20.00	2.50	2.50	0.00	15.00
Operation:	10	1.0	3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	1.50	0.25	1.75	0.25	0.00	0.00	1.50
Burden Total:			4.50	1.00	5.50	0.25	0.75	0.00	4.50
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
WO Subtotal:			103.00	5.00	108.00	2.75	2.25	0.00	103.00
- Std Cost Rcvd:									-96.75
- Scrapped:									0.00
- Mthd Chg Var:									0.00
Balance:									6.25

QAD Proprietary

PC-WO-630

The expected labor cost is the standard run and set-up hours multiplied by the work center rate.

Accumulated Cost: Labor

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Accumulated Labor Cost

The actual hours multiplied by the actual pay rate
*Actual Hrs x Actual Pay Rate
*Actual Hrs = Actual Set-up Time + Actual Run Time

QAD

Work Order Cost Report

10/06/1

10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Trandsucer Quantity Completed: 1.0 Release Date: 10/06/10
WO Stat: C Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		1.0	76.50	0.00	76.50	0.00	0.00	0.00	76.50
60012		6.0	6.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:			82.50	0.00	82.50	0.00	0.00	0.00	82.50
Operation:	10	1.0	10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	5.00	2.50	7.50	2.50	0.00	0.00	5.00
Labor Total:			15.00	5.00	20.00	2.50	2.50	0.00	15.00
Operation:	10	1.0	3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	1.50	0.25	1.75	0.25	0.00	0.00	1.50
Burden Total:			4.50	1.00	5.50	0.25	0.75	0.00	4.50
Operation:	10	0.0							
Operation:	15	0.0							
Operation:	20	0.0							
Subcontract Total:									
WO Subtotal:									
- Std Cost Rcvd:									
- Scrapped:									
- Mthd Chg Var:									
Balance:									6.25

Where Did the Numbers Come From?

- **For actual pay rate, look in Actual Pay Rate Maintenance (14.13.21)**
- **For actual hours, look in WO Routing Maintenance (16.13.13)**

QAD Proprietary

PC-WO-640

The accumulated cost for labor is the actual hours multiplied by the actual pay rate.

The actual pay rate is the employee's pay rate from Actual Pay Rate Maintenance if available, or the work center rate if Actual Pay Rate not available.

Rate Variance Posted: Labor

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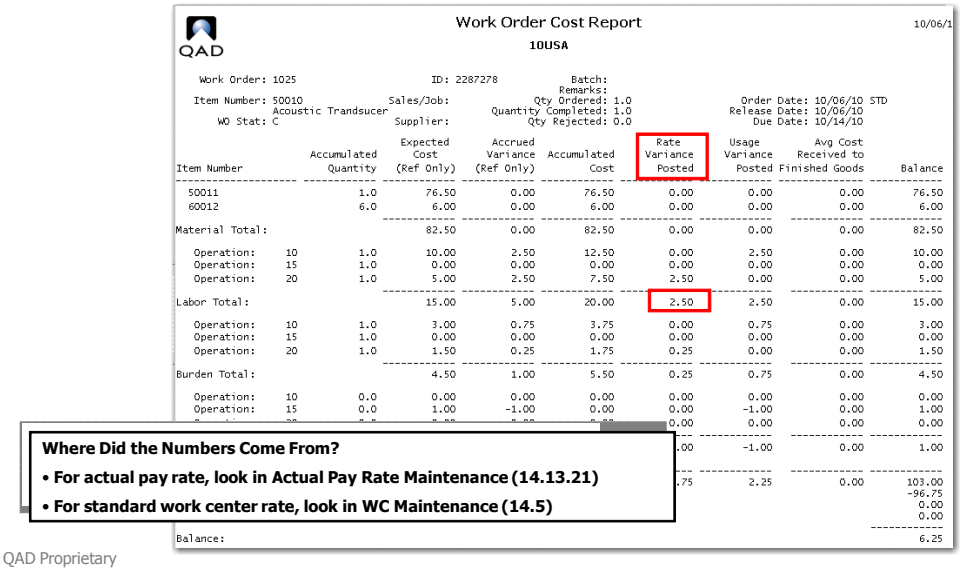
Labor Rate Variance

- **The difference between the actual employee pay rate and the standard work center labor rate**
- **Not calculated unless actual pay rate set up in (14.13.21) or (29.15.1)**
- **[(Act Set-Up Rate - Std Set-Up Rate) x Act Set-Up Hrs] + [(Act Run Rate - Std Run Rate) x Act Run Hrs]**



QAD

Work Order Cost Report

10/06/1

10USA

Work Order: 1025 ID: 2287278 Batch:
Remarks:
Item Number: 50010 Sales/Job: Qty Ordered: 1.0 Order Date: 10/06/10 STD
Acoustic Trandsucer Quantity Completed: 1.0 Release Date: 10/06/10
WO Stat: C Supplier: Qty Rejected: 0.0 Due Date: 10/14/10

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
50011		1.0	76.50	0.00	76.50	0.00	0.00	0.00	76.50
60012		6.0	6.00	0.00	6.00	0.00	0.00	0.00	6.00
Material Total:			82.50	0.00	82.50	0.00	0.00	0.00	82.50
Operation:	10	1.0	10.00	2.50	12.50	0.00	2.50	0.00	10.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	5.00	2.50	7.50	2.50	0.00	0.00	5.00
Labor Total:			15.00	5.00	20.00	2.50	2.50	0.00	15.00
Operation:	10	1.0	3.00	0.75	3.75	0.00	0.75	0.00	3.00
Operation:	15	1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	1.0	1.50	0.25	1.75	0.25	0.00	0.00	1.50
Burden Total:			4.50	1.00	5.50	0.25	0.75	0.00	4.50
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	15	0.0	1.00	-1.00	0.00	0.00	-1.00	0.00	1.00
						0.00	0.00	0.00	0.00
						.00	-1.00	0.00	1.00
						.75	2.25	0.00	103.00
									-96.75
									0.00
									0.00
Balance:									6.25

Where Did the Numbers Come From?

- **For actual pay rate, look in Actual Pay Rate Maintenance (14.13.21)**
- **For standard work center rate, look in WC Maintenance (14.5)**

QAD Proprietary

PC-WO-650

The rate variance posted for labor is the difference between the work center rate and the actual pay rate multiplied by the actual hours.

Usage Variance Posted: Labor

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Labor Usage Variance

- **The difference between the actual hours needed to complete an operation and the standard hours**
- **[(Act Set-up Hrs - Std Set-up Hrs) x Std Set-up Rate] + [(Act Run Hrs - Std Run Hrs) x Std Lbr Rate]**
  *Std Hrs = Std Run Hrs / Unit x (Qty Complete + Qty Reject)

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
04-0005		111.11111	140.00	0.00	70.00	0.00	0.00	0.00	70.00
09-0001		100.0	5.00	0.00	2.50	0.00	0.00	0.00	2.50
09-0035		100.0	3.00	0.00	1.50	0.00	0.00	0.00	1.50
10-0040		0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material Total:			148.00	0.00	74.00	0.00	0.00	0.00	74.00
Operation:	10	100.0	15.00	5.00	20.00	0.00	5.00	0.00	15.00
Operation:	20	100.0	5.00	15.00	20.00	0.00	[illegible]	0.00	5.00
Operation:	30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor Total:			20.00	20.00	40.00	0.00	20.00	0.00	20.00
Operation:	10	100.0	45.00	15.00	60.00	0.00	15.00	0.00	45.00
Operation:	20	100.0	10.00	30.00	40.00	0.00	30.00	0.00	10.00
Operation:	30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				45.00	100.00	0.00	45.00	0.00	55.00
				.00	0.00	0.00	0.00	0.00	0.00
				.00	0.00	0.00	0.00	0.00	0.00
				.00	0.00	0.00	0.00	0.00	0.00
				.00	0.00	0.00	0.00	0.00	0.00
				.00	214.00	0.00	65.00	0.00	149.00
									-313.24
									-16.49
									0.00
									-180.73

Where Did the Numbers Come From?

- **For actual and standard set-up and run hours, look in Work Order Routing Maintenance (16.13.13)**
- **For work center labor rate, look in Work Center Maintenance (14.5)**

Work Order Cost Report (16.3.4)

QAD Proprietary

PC-WO-660

The usage variance posted for labor is the difference between the actual hours and the standard hours multiplied by the work center rate. These variances can be calculated at each shop floor control transaction: Labor Feedback Work Order(17.1), Labor Feedback Employee (17.2), Labor Feedback Work Center (17.3) or at Work Order Accounting Close (16.21)

When these calculations occur is controlled by the Work Order Control (16.24)

Expected Cost: Burden

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Expected Burden

- **The burden that is expected to be issued to the work order**
- **For each operation, add together:**
  {Std Set-up Hrs/Qty x [Lbr Bdn Rate + (Std Set-up Rate x Lbr Bdn %) + (Mach/Op x Mach Bdn Rate)]} + {Std Run Hrs/Unit x [Lbr Bdn Rate + (Std Lbr Rate x Lbr Bdn %) + Mach Bdn Rate]} = Burden/Unit
- Std Burden per Unit x Qty Completed

Work Order Cost Report (16.3.4)

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted
Operation:	10	100.0	45.000	5.00	50.000	-10.00	15.00
Operation:	20	100.0	10.000	-2.50	7.500	-2.50	0.00
Burden Total:			55.000	2.50	57.500	-12.50	15.00

Example, Op 10

- **Std set-up per 100 = 1 hr; Std run per unit = 0.005**
- **{1/100 x [0 + (10 x 200%) + (1 x 10)]} + {0.005 x [0 + (10 x 200%) + 10]} = 0.45**
- **100 x 0.45 = 45**

PC-WO-670

Burden is calculated as an application against labor. A labor variance has an associated burden variance.

The burden values are calculated the same way as labor, except the burden application rate is used. The accumulated quantity is the units reported complete in that operation.

Accumulated Cost: Burden

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Accumulated Burden Cost

- **The burden that is actually issued to the work order**
- **For each operation, add together:**
  {Actual Set-up Hrs/Qty x [Lbr Bdn Rate + (Actual Set-up Rate x Lbr Bdn %) + (Mach/Op x Mach Bdn Rate)]} + {Actual Run Hrs/Unit x [Lbr Bdn Rate + (Actual Lbr Rate x Lbr Bdn %) + Mach Bdn Rate]} = Burden/Unit
- Actual Burden per Unit x Qty Completed

Work Order Cost Report (16.3.4)

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted
Operation:	10	100.0	45.000	5.00	50.000	-10.00	15.00
Operation:	20	100.0	10.000	-2.50	7.500	-2.50	0.00
Burden Total:			55.000	2.50	57.500	-12.50	15.00

Example, Op 10

- **{1/100 x [0 + ($7.50 x 200%) + (1 x 10)]} + {0.01 x [0 + ($7.50 x 200%) + 10]} = 0.5**
- **100 x 0.5 = 50**

QAD Proprietary

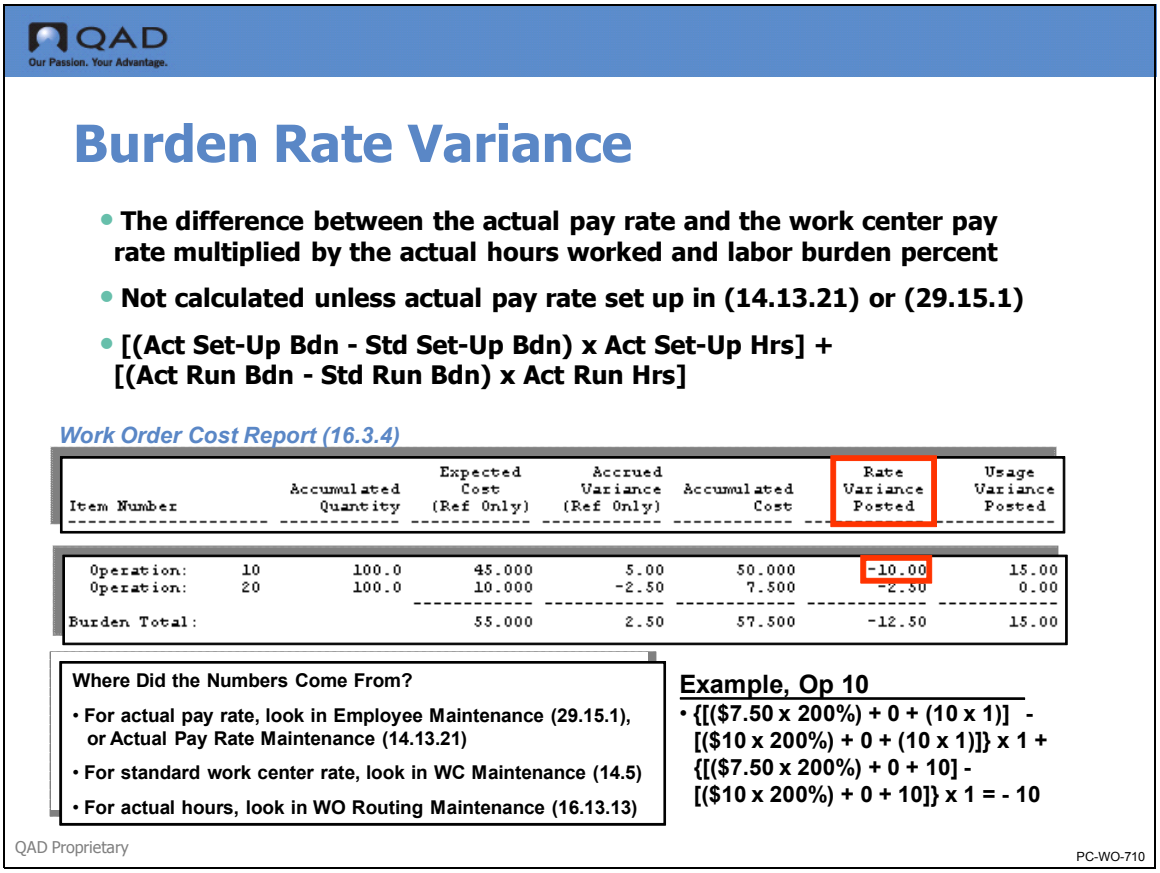
PC-WO-690

The accumulated cost for burden is the actual quantity completed multiplied by the actual burden rate.

In the example above the standard setup and run labor rates are both 5.00. The standard setup and run time for operation 10 are both one hour. The machine burden rate in this work center is 1.00/hour. There is no labor burden rate but a 10% of labor cost labor burden %.

In this example setup time was charged 1.5 hours. An easy way to see the burden cost is; the machine at 1.0 per hour burden for a total of 2.5 hours (rather than the standard 2.0); and labor at a burden rate of 0.50 per hour for 2.5 hours for a total burden at operation 10 of 2.5 machine + 1.25 labor or 3.75 total burden, or 0.75 unfavorable to standard. This is also seen in the 2.50 labor usage variance.

Rate Variance Posted: Burden



The burden rate variance for labor is the difference between the work center rate and the actual pay rate multiplied by the actual hours and the labor burden percent.

In the example shown above, operation 20 was performed by an employee earning an above standard pay rate causing the labor rate variance of 2.50. The burden rate variance of 0.25 is related to that labor variance.

Burden Rate Variance Calculation

[(Actual Set-Up Bdn - Std Set-Up Bdn) × Actual Set-Up Hrs] +
[(Actual Run Bdn - Std Run Bdn) × Actual Run Hrs]

Where:

Actual Set-Up Bdn =
(Actual Set-Up Rate × Lbr Bdn %) + Lbr Bdn Rate + (Mach Bdn Rate × Mach/Op)

Std Set-Up Bdn =
(Std Set-Up Rate × Lbr Bdn %) + Lbr Bdn Rate + (Mach Bdn Rate × Mach/Op)

Actual Run Bdn =
(Actual Run Rate × Lbr Bdn %) + Lbr Bdn Rate + Mach Bdn Rate

Std Run Bdn =
(Std Run Rate × Lbr Bdn %) + Lbr Bdn Rate + Mach Bdn Rate

Usage Variance Posted: Burden

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Burden Usage Variance

- **The difference between the actual hours needed to complete an operation and the standard hours multiplied by the work center burden rate**
- **[(Act Set-Up Hrs - Std Set-Up Hrs) x Set-Up Bdn] + [(Act Run Hrs - Std Run Hrs) x Run Bdn]**
  Where:
  Set-Up Bdn = [(Std Set-Up Rate x Lbr Bdn%) + Lbr Bdn Rate + (Mach Bdn Rate x Mach/Op)]
  Run Bdn = [(Std Run Rate x Lbr Bdn%) + Lbr Bdn Rate + Mach Bdn Rate]

Work Order Cost Report (16.3.4)

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted
Operation:	10	100.0	45.000	5.00	50.000	-10.00	15.00
Operation:	20	100.0	10.000	-2.50	7.500	-2.50	0.00
Burden Total:			55.000	2.50	57.500	-12.50	15.00

Where Did the Numbers Come From?

- **For actual and standard set-up and run hours, look in Work Order Routing Maintenance (16.13.13)**
- **For burden rate and percentage, look in Work Center Maintenance (14.5)**

Example, Op 10

- **{(1 - 1) x [($10 x 200%) + 0 + (10 x 1)]} + {(1 - 0.5) x [($10 x 200%) + 0 + 10]} = 15**

QAD Proprietary

PC-WO-730

The usage variance for burden is the difference between the actual hours and the standard hours multiplied by the work center burden rate. These variances can be calculated at each shop floor transaction: Labor Feedback Work Order (16.20.1), Labor Feedback Employee (16.20.2), Labor Feedback Work Center (16.20.3), or at Work Order Receipt (16.11) or Work Order Receipt Backflush (16.12). When these calculations occur is controlled by the Work Order Accounting Control File (36.9.11).

In the example above the setup at operation 10 was charged 1.5 hours not the standard 1.0, resulting in a labor usage variance and its corresponding burden usage variance.

Expected Cost: Subcontract

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Expected Subcontract Cost

- **The subcontract labor cost that is expected to be issued to the purchase order**
- **Qty Completed x Std Subcontract Cost per Unit**

Work Order Cost Report (16.3.4)

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted
Operation:	10	0.0	0.000	0.00	0.000	0.00	0.00
Operation:	20	100.0	10.000	15.00	25.000	15.00	0.00
Subcontract Total:			10.000	15.00	25.000	15.00	0.00

Example, Op 20
• 100 x 0.10 = 10

Where Did the Numbers Come From?
• For subcontract cost per unit, look in Routing Maintenance (14.13.1)

QAD Proprietary
PC-WO-750

In this example the expected cost is 1.00 but there is no purchase order linked to the work order to receive the units back into WIP hence the -1.00 subcontract variance.

Subcontract is similar to material in the way that it is handled.

- The Accumulated Quantity is the quantity received on the purchase order
- The Expected Cost for subcontract is the quantity completed plus rejects multiplied by the subcontract cost from the routing operation (see figure above)
- The Accrued Variance is the variance the system has already recognized. It should be equal to the total of the rate variance posted and the usage variance posted columns.
- Accumulated cost is the actual purchase order cost multiplied by the quantity received

Rate Variance Posted: Subcontract

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Subcontract Rate Variance

- **The difference between the actual subcontract rate (PO) and the standard subcontract rate (Work Order Routing)**
- **(Subcontract PO Unit Rate - Subcontract Frozen WO BOM Unit Rate) x Quantity Received**

Work Order Cost Report (16.3.4)

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted
Operation:	10	0.0	0.000	0.00	0.000	0.00	0.00
Operation:	20	100.0	10.000	15.00	25.000	15.00	0.00
Subcontract Total:			10.000	15.00	25.000	15.00	0.00

Where Did the Numbers Come From?

- To see both actual and standard subcontract rates, look in Receipt Transactions Report (5.9.14)
- The actual subcontract rate was entered in PO Maintenance (5.7)

Example, Op 20

- **(0.25 - 0.10) x 100 = 15**

QAD Proprietary

PC-WO-770

In this example; had there been a purchase order, with a none standard cost it would have generated a purchase price variance.

The Subcontract Rate Variance is the actual purchase order cost minus the subcontract cost from the routing multiplied by the quantity received. It is calculated at the point of receipt (see figure above).

(Subcontract PO Unit Cost - Subcontract Frozen WO BOM Unit Cost) x Qty Received

Usage Variance Posted: Subcontract

The Usage Variance for subcontract is the difference between the quantity received on the purchase order and the quantity completed plus rejected multiplied by the subcontract cost from the router. It is calculated at accounting close.

This can occur if the vendor has quality problems and some units are damaged or destroyed in their process

[Qty Received - (Op Qty Completed + Op Qty Rejected)] x Subcontract Frozen WO BOM Unit Cost

Standard Cost Received

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Standard Cost Received

- **Qty Completed x Std Unit Cost of Parent Item**

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
04-0005		111.11111	140.00	0.00	70.00	0.00	0.00	0.00	70.00
09-0001		100.0	5.00	0.00	2.50	0.00	0.00	0.00	2.50
09-0035		100.0	3.00	0.00	1.50	0.00	0.00	0.00	1.50
10-0040		0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material Total:			148.00	0.00	74.00	0.00	0.00	0.00	74.00
Operation:	10	100.0	15.00	5.00	20.00	0.00	5.00	0.00	15.00
Operation:	20	100.0	5.00	15.00	20.00	0.00	15.00	0.00	5.00
Operation:	30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor Total:			20.00	20.00	40.00	0.00	20.00	0.00	20.00
Operation:	10	100.0	45.00	15.00	60.00	0.00	15.00	0.00	45.00
Operation:	20	100.0	10.00	30.00	40.00	0.00	30.00	0.00	10.00
Operation:	30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Burden Total:			55.00	45.00	100.00	0.00	45.00	0.00	55.00
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00
WO Subtotal:			223.00	65.00	214.00	0.00	65.00	0.00	-149.00
- Std Cost Rcvd:									-313.24
- Scrapped:									16.43
- Mthd Chg Var:									0.00
Balance:									-180.73

Work Order Cost Report (16.3.4)

PC-WO-800

The Standard Cost Received is the quantity completed multiplied by the standard cost of the parent in effect at the point of receipt.

Scrapped amount is the quantity rejected multiplied by the GL Standard cost of parent item at the point of receipt.

Method Change Variance

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Method Change Variance

Residual cost in WIP

Item Number		Accumulated Quantity	Expected Cost (Ref Only)	Accrued Variance (Ref Only)	Accumulated Cost	Rate Variance Posted	Usage Variance Posted	Avg Cost Received to Finished Goods	Balance
04-0005		111.11111	140.00	0.00	70.00	0.00	0.00	0.00	70.00
09-0001		100.0	5.00	0.00	2.50	0.00	0.00	0.00	2.50
09-0035		100.0	3.00	0.00	1.50	0.00	0.00	0.00	1.50
10-0040		0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material Total:			148.00	0.00	74.00	0.00	0.00	0.00	74.00
Operation:	10	100.0	15.00	5.00	20.00	0.00	5.00	0.00	15.00
Operation:	20	100.0	5.00	15.00	20.00	0.00	15.00	0.00	5.00
Operation:	30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Labor Total:			20.00	20.00	40.00	0.00	20.00	0.00	20.00
Operation:	10	100.0	45.00	15.00	60.00	0.00	15.00	0.00	45.00
Operation:	20	100.0	10.00	30.00	40.00	0.00	30.00	0.00	10.00
Operation:	30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Burden Total:			55.00	45.00	100.00	0.00	45.00	0.00	55.00
Operation:	10	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation:	30	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subcontract Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00
WO Subtotal:			223.00	65.00	214.00	0.00	65.00	0.00	149.00
- Std Cost Rcvd:									-313.24
- Mthd Chg Var:									0.00
Balance:									-180.73

Work Order Cost Report (16.3.4)

Caused by changing

- **Cost standard**
- **Product structure**
- **Routing**
- **Work center**

QAD Proprietary

PC-WO-810

Method Change Variance is the residual cost in work in process. A residual work in process is caused by changing the cost standard, product structure, routing, or work center.

- If roll-ups are not performed after a change, the resultant differential in costs will produce a method change variance

  If the work order is in process at the time of the roll-up, a revaluation of work in process may be required

  Work orders that are not released or closed do not need to be revalued

- Using an alternate bill of material or routing will result in a Method Change Variance, unless the cost of the alternate is equal to the primary bill of material and routing that was the basis for the standard cost
- Direct updates to values in the WO BOM/Routing, which control variance calculation, like frozen quantity per, will result in a Method Change Variance
- If set-up time is used and the Qty Received-plus-Qty Rejected amount on the work order varies from the Order Qty in Item Planning Data, a Method Change Variance will result
- If the Qty Complete in the Shop Floor Control reporting is different than the Qty Received-plus-Qty Rejected amount in the work order, a Method Change Variance will result

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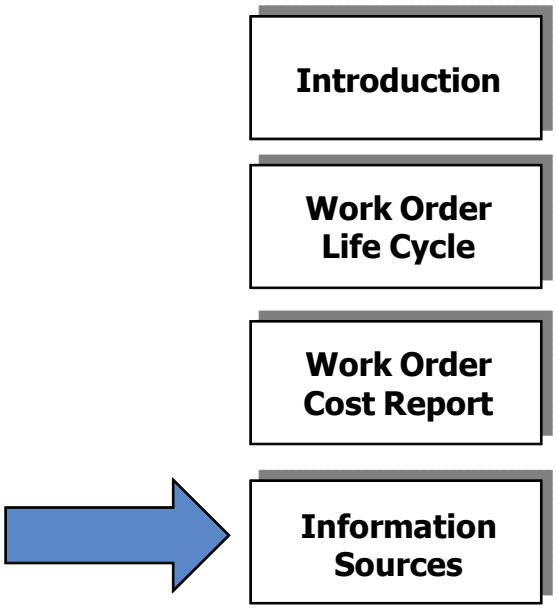
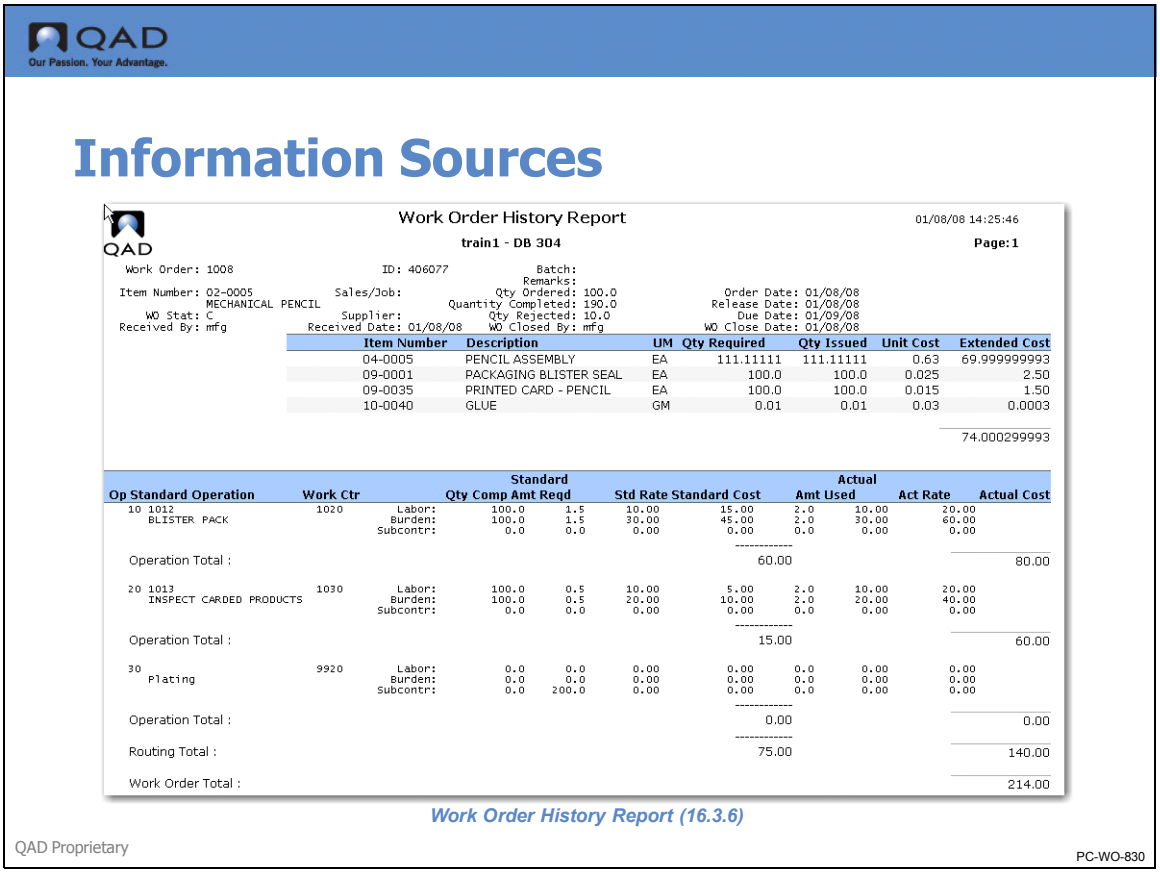
Work Order Topics



PC-WO-820

Information Sources



Information sources that are particularly relevant to work order transactions and costing are outlined below.

Work Order Cost Report (16.3.4)

Prints general cost information for one or more work orders, including issues, labor costs, receipts, GL cost, and variance information. This report can be printed for closed and open work orders. If this report is run for work orders that have not been processed by Work Order Accounting Close (16.21), the variances calculated may be incomplete.

Work Order WIP Cost Report (16.3.5)

Shows how the WIP balance is supported by work order activity. It sorts first by WIP account, then work order, displaying the accumulated material, labor, burden, and subcontract costs, and the cost of receipts and rejects, to arrive at the cost currently in WIP for each order and each WIP account. Activities that affect these costs include component issues, labor feedback, operation completions, purchase order receipts (for subcontract orders), and work order receipts. The WIP Cost Report should be reconciled to the GL WIP account at month-end.

Work Order History Report (16.3.6)

The Work Order History Report documents closed work orders with their bills and routings (see figure on preceding page). Components are reported with the quantities required and issued. Operations are reported with the actual number of units completed and the expected and actual hours for set-up and run time. It also shows a comparison of actual values to expected values. The Standard Rate column expresses what each unit of a particular category (labor, burden, subcontract) costs based upon the quantity completed. The rate can then be compared with the actual rate. The Work Order History Report can be printed only for closed work orders.

Operation Transaction Detail Inquiry (16.20.13.9)

Lists detailed audit information about a specific labor feedback transaction; includes time and cost.

Operations Accounting Report (16.20.13.10)

Prints a summary of the GL transactions of type WO generated by Shop Floor Control activities. Several examples of this report are shown throughout this chapter.

Transactions Detail Inquiry (3.21.1)

Lists detailed audit information about a specific work order issue or receipt transaction. Several examples of this report are shown throughout this chapter.

Transactions Accounting Report (3.21.16)

Prints a summary of the GL transactions of type IC.

Unposted Transaction Inquiry (25.13.13); Unposted Transaction Register (25.13.14)

Lists GL transactions that have been created but not yet posted.

Appendix A

Variances and Components Reference

Purchase-Related Variances	
Purchase Price	
Calculated at PO Receipts, 5.13.1 *Reports:* Transaction Receipts Report, 5.9.14; Transactions Detail Inquiry, 3.21.1	[PO Unit Cost - (GL Unit Cost - OH)] x PO Qty Rcv'd
AP Rate	
Calculated at Supplier Invoice Create, 28.1.1.1 *Reports:* Matching Variance Rpt. 28.2.7 Transactions Detail Inquiry, 3.21.1	(Invoice Unit Cost - PO Unit Cost) x Invoice Qty
AP Usage	
Calculated at Supplier Invoice Create, 28.1.1.1 *Reports:* Matching Variance Rpt. 28.2.7; Transactions Detail Inquiry, 3.21.1	(Invoice Qty - PO Receipt Qty) x PO Unit Cost
Manufacturing-Related Variances	
Material Rate	
Calculated at WO Component Issue, 16.10; WO Receipt Backflush, 16.12; Repetitive Backflush, 18.22.13 *Reports*: Work Order Cost Report, 16.3.4; Transactions Detail Inquiry, 3.21.1	(WO BOM Unit Cost at Issue - GL Unit Cost) x Actual Qty Iss'd
Material Usage	
Calculated at WO Accounting Close, 16.21; Cum Order Close, 18.22.10; Post Accumulated Usage Var, 18.22.9 *Reports*: Work Order Cost Report, 16.3.4; Transactions Detail Inquiry, 3.21.1; Repetitive Operations Accounting Report, 18.22.4.9	{Actual Qty Issued - [qty per x (qty completed + qty rejected)]} x GL Unit Cost
Labor Rate	
Calculated at SFC feedback, 16.20.1, 16.20.2, 16.20.3; can be deferred until WO Receipt, 16.11, 16.12; Repetitive Backflush, 18.22.13 *Reports*: Work Order Cost Report, 16.3.4; Operations Accounting Rpt, 16.20.13.10; Rep Ops Accounting Rpt, 18.22.4.9	Per Operation: [(Actual Set-Up Rate - Std Set-Up Rate) x Actual Set-Up Hrs] + [(Actual Run Rate - Std Run Rate) x Actual Run Hrs] Set-up and run rates are equal to the payroll rate (defined in 14.13.21) or the work center rate if payroll is not set up No variances if no labor reporting
Labor Usage	
Calculated at SFC feedback, 16.20.1, 16.20.2, 16.20.3; can be deferred until WO Receipt, 16.11, 16.12; Post Accumulated Usage Var, 18.22.9; Cum Accounting Close, 18.22.10 *Reports:* WO Cost Report, 16.3.4; Operations Accounting Rpt, 16.20.13.10; Rep Ops Accounting Rpt, 18.22.4.9	Per Operation: [(Actual Set-Up Hrs - Std Set-Up Hrs) x Std Set-Up Rate] + [(Actual Run Hrs - *Std Run Hrs) x Std Run Rate] *Std Run Hrs = Std Run Hrs x (Qty Completed + Qty Rejected)

Burden Rate	
Calculated at SFC feedback, 16.20.1, 16.20.2, 16.20.3; WO Receipt, 16.11, 16.12; Repetitive Backflush, 18.22.13 *Reports:* WO Cost Report, 16.3.4; Operations Accounting Rpt, 16.20.13.10; Rep Ops Accounting Rpt, 18.22.4.9	Per Operation: [(Actual Set-Up Bdn - Std Set-Up Bdn) x Actual Set-Up Hrs] + [(Actual Run Bdn - Std Run Bdn) x Actual Run Hrs] Actual Set-Up Bdn = (Actual Set-Up Rate x Lbr Bdn %) + Lbr Bdn Rate + (Mach Bdn Rate x Mach/Op) Std Set-Up Bdn = (Std Set-Up Rate x Lbr Bdn %) + Lbr Bdn Rate + (Mach Bdn Rate x Mach/Op) Actual Run Bdn = (Actual Run Rate x Lbr Bdn %) + Lbr Bdn Rate + Mach Bdn Rate Std Run Bdn = (Std Run Rate x Lbr Bdn %) + Lbr Bdn Rate + Mach Bdn Rate
Burden Usage	
Calculated at SFC feedback, 16.20.1, 16.20.2, 16.20.3; can be deferred until WO Receipt, 16.11, 16.12; Post Accumulated Usage Var, 18.22.9; Cum Order Close, 18.22.10; *Reports:* WO Cost Report, 16.3.4; Operations Accounting Rpt, 16.20.13.10; Rep Ops Accounting Rpt, 18.22.4.9	Per Operation: [(Act Set-Up Hrs - Std Set-Up Hrs) x Std Set-Up Bdn] + [(Act Run Hrs - Std Run Hrs) x Std Run Bdn] Std Set-Up Bdn = (Std Set-Up Rate x Lbr Bdn %) + Lbr Bdn Rate + (Mach Bdn Rate x Mach/Op) Std Run Bdn = (Std Run Rate x Lbr Bdn %) + Lbr Bdn Rate + Mach Bdn Rate
Subcontract Rate	
Calculated at PO Receipt, 5.13.1	(Subcontract PO Unit Cost - Subcontract Unit Cost from Routing) x Qty Received
Subcontract Usage	
Calculated at WO Accounting Close, 16.21; Post Accumulated Usage Var, 18.22.9; Cum Order Close, 18.22.10	[Qty Received - (Op Qty Completed + Op Qty Rejected)] x Subcontract Unit Cost from Routing
Method	
Calculated at WO Accounting Close, 16.21; Cum Accounting Close, 18.22.10	Balance of WO/ID value remaining
Mix (Co/By-Products)	
Calculated at WO Accounting Close, 16.21	[Order Qty - (Receipt Qty + Scrap Qty)] x GL Unit Cost

Variances by Transaction Flow

PO Receipts

Purchase Price Variance

[PO Unit Cost - (GL Unit Cost - OH)] x PO Qty Rcv'd

Subcontract Rate Variance

(Subcontract PO Unit Cost - Subcontract Unit Cost from Routing) x Qty Received

Voucher Maintenance

Accounts Payable Rate Variance

(Invoice Unit Cost - PO Unit Cost) x Invoice Qt

Accounts Payable Usage Variance

(Invoice Qty - PO Receipt Qty) x PO Unit Cost

Work Order Component Issue

Material Rate Variance

(WO BOM Unit Cost at Issue - GL Unit Cost) x Actual Qty Iss'd

Labor Feedback

Labor Rate Variance

[(Actual Set-Up Rate - Std Set-Up Rate) x Actual Set-Up Hrs] + [(Actual Run Rate - Std Run Rate) x Actual Run Hrs]

Labor Usage Variance

[(Actual Set-Up Hrs - Std Set-Up Hrs) x Std Set-Up Rate] + [(Actual Run Hrs - *Std Run Hrs) x Std Run Rate]

*Std Run Hrs = Std Run Hrs x (Qty Completed + Qty Rejected)

Burden Rate Variance

[(Actual Set-Up Bdn - Std Set-Up Bdn) x Actual Set-Up Hrs] +
[(Actual Run Bdn - Std Run Bdn) x Actual Run Hrs]

Burden Usage Variance

[(Act Set-Up Hrs - Std Set-Up Hrs) x Set-Up Bdn] + [(Act Run Hrs - Std Run Hrs) x Run Bdn]

Work Order Accounting Close

Subcontract Usage Variance

[Qty Received - (Op Qty Completed + Op Qty Rejected)] x Subcontract Unit Cost from Routing

Material Usage Variance

{Actual Qty Issued - [qty per x (qty completed + qty rejected)]} x GL Unit Cost

Method Variance

Components of Item Cost	
Material	
Dependent On	*Defined In*
Material/Purchase Price	Item Master Maintenance, 1.4.1, 1.4.9, 1.4.18
Quantity Per	Product Structure Maintenance, 13.5, 15.5
Scrap %	Product Structure Maintenance, 13.5, 15.5
Phantom	Item Master Maintenance, 1.4.1, 1.4.7, 1.4.17
Pur/Mfg	Item Master Maintenance, 1.4.1, 1.4.7. 1.4.17
Structure Type	Product Structure Maintenance, 13.5
Yield %	Routing Maintenance, 14.13.1
Labor	
Dependent On	*Defined In*
Work Center Labor Rates	Work Center Maintenance, 14.5
Work Center Setup Rates	Work Center Maintenance, 14.5
Run Time per Unit	Routing Maintenance, 14.13.1, 14.13.2
Setup Time per Lot	Routing Maintenance, 14.13.1, 14.13.2
Order Quantity	Item Master Maintenance, 1.4.1
Subcontract Cost	Routing Maintenance, 14.13.1
Burden	
Dependent On	*Defined In*
Work Center Labor Burden Rates	Work Center Maintenance, 14.5
Work Center Labor Burden Percent	Work Center Maintenance, 14.5
Work Center Machine Burden Rate	Work Center Maintenance, 14.5
Machines/Operation	Work Center Maintenance, 14.5
All of the items under Labor (above)	